"Kind of Mine, Kind of Not": Digital Possessions and Affordance Misalignment

Abstract: The objects we consume increasingly exist in digital form, from audiobooks and digital photographs to social media profiles and avatars. Digital objects are often argued to be less valued, meaningful, and self-relevant than their physical counterparts, and are consequently dismissed as poor candidates for possession. Yet, studies have identified highly meaningful, even irreplaceable, digital possessions. In this paper, we account for these contradictory narratives surrounding digital possessions, arguing that digital objects are not inherently unsuited to possession, but rather their affordances may not align with consumers' imagined affordances (i.e., the object affordances that consumers anticipate). Drawing from a qualitative study of 25 consumers and their digital possessions, we identify three recurring types of *affordance misalignment* - missing affordances, covert affordances, and deficient affordances - that mediate how consumers and digital objects interact (pragmatic mediation) and, consequently, consumers' experiences of, and beliefs surrounding, digital objects as possessions (hermeneutic mediation). We demonstrate that these affordance misalignments can create obstacles to consumers' desired experiences of possession and document consumers' attempts to overcome these obstacles by employing *alignment strategies,* with varied behavioural outcomes. This paper advances debates surrounding digital possessions and presents an enriched affordance theory lens that provides new insights into possession.

Keywords: possession, digital objects, digital possessions, affordances, imagined affordances, postphenomenology

INTRODUCTION

Research has long studied consumers' relationships with personally meaningful and highly valued physical possessions, from treasured family heirlooms (Curasi et al. 2004; Türe and Ger 2016) to mementos (Belk 1991) and collections (Belk 1995). However, recent decades have seen the growing prevalence of digital objects – objects that *"possess no enduring material substance but rather exist within digital space* […] *accessed and consumed via devices such as desktop computers, laptops, tablets, mobile phones and videogame consoles"* (Molesworth et

al. 2016, 246). Digital objects can be purchased from corporations (e.g., ebooks), created by consumers (e.g., digital photographs), or accessed via online, corporate-owned platforms (e.g., playlists on music streaming platforms) (Watkins et al. 2016). Many digital objects have rapidly come to rival and even outpace their physical equivalents. For instance, physical sales of music, films, and videogames have plummeted, with these markets now dominated by digital downloads and streaming (Statista 2022a, 2022b; Stokel-Walker 2021). As the objects we consume increasingly exist in digital form (Belk 2013; Morewedge et al. 2021), researchers have begun to question whether these objects can become meaningful and valued possessions, however these discussions have been inconclusive.

Some scholars have argued that digital objects exhibit qualities that render them less valued, less personally meaningful, and less integral to consumers' identities when compared with physical objects (Atasoy and Morewedge 2018; Belk 2013; Morewedge et al. 2021; Petrelli and Whittaker 2008; Siddiqui and Turley, 2006). For instance, whilst digital objects are consumed using physical devices, consumers nonetheless tend to experience them as intangible (Odom et al., 2014), which can make appropriation difficult (Belk, 2013; Morewedge et al. 2021; Petrelli and Whittaker 2010; Siddiqui and Turley 2006). Furthermore, access to digital objects may be impermanent as corporations often retain legal rights to remotely access, transform, or delete them (Watkins et al. 2016), producing an apparent instability that can render digital objects undesirable as possessions (Belk 2013; Petrelli and Whittaker 2010). Consequently, digital objects are often dismissed as poor candidates for possession (Atasoy and Morewedge 2018; Morewedge et al. 2021; Siddiqui and Turley, 2006) and identified as ideal candidates for the fleeting and detached consumer-object relationships that characterise liquid consumption (Bardhi et al. 2012; Bardhi and Eckhardt 2017). However, other studies have identified highly meaningful, even irreplaceable, digital possessions, from treasured videogame avatars to sentimental emails (Denegri-Knott et al. 2012; Kirk and Sellen 2010; Odom et al. 2011; Watkins and Molesworth 2012). Whilst scholars have highlighted these contradictory accounts of digital possessions (Kirk and Swain 2018), it remains unclear why some digital

objects become meaningful possessions whilst others do not and whether digital objects as a category are indeed inherently less suited to meaningful forms of possession.

These contradictory accounts of digital possessions may be due, in part, to variance in digital object characteristics. Mardon and Belk (2018) argue that it is problematic to make generalisations regarding digital object characteristics, since material configuration techniques implemented by the companies that produce digital commodities can alter these characteristics. For instance, whilst some digital objects are infinitely reproducible and widely accessible, such as the viral images and videos that spread rapidly across social media platforms, others are designed to be non-reproducible in order to render them scarce and desirable, as in the case of non-fungible tokens (NFTs) (Belk et al. 2022) or digital collectibles in videogames (Mardon and Belk 2018). Thus, to argue that digital objects are *inherently* unsuited to possession overlooks the significant variability in the characteristics they can exhibit. Whilst we agree with Mardon and Belk's (2018) argument that digital objects' characteristics vary and thus may produce varied experiences of possession, we argue that to fully understand variance in consumers' experiences of digital possessions we must shift our focus from objects' characteristics to their affordances.

From an affordance theory perspective, consumers do not perceive objects' objective characteristics, qualities, or features, but rather their affordances, defined as the action possibilities that objects present in relation to a human subject (Gibson 1979). Affordances are not qualities of objects in isolation but are always relational, conditional on consumers' perceptions and dexterity, as well as prevailing cultural norms (Davis 2020; Davis and Chouinard 2016; Gibson 1979). Indeed, consumers' own imagined affordances – the affordances they anticipate (Nagy and Neff 2015) – can influence how they perceive, make sense of, and respond to an object's affordances. Thus, beyond recognising variance in digital object characteristics (Mardon and Belk 2018), we argue that a single digital object will offer different affordances in relation to different consumers, who in turn may respond to these affordances in different ways due to their distinct imagined affordances, potentially producing

highly varied experiences of possession. An affordance theory lens therefore enables us to account for the varied and contradictory accounts of digital possessions in prior literature and to shed new light on the ways in which digital objects may present obstacles to consumers' desired experiences of possession. Informed by this lens, we argue that digital objects are not inherently poor targets for possession, but rather their affordances often do not align with consumers' imagined affordances, creating *affordance misalignments*. In other words, digital objects often do not behave as consumers expect them to. We propose that digital objects are prone to affordance misalignments because consumers' imagined affordances are shaped by their previous interactions with their physical equivalents or predecessors (e.g., past encounters with physical books influence consumers' expectations surrounding ebooks), as well as by wider cultural norms surrounding possession that are grounded primarily in experiences of physical possessions. Focusing on affordance misalignments enables us to better understand when and why obstacles to meaningful possession occur in the context of digital objects. Informed by this theoretical lens, we therefore ask: *How do digital objects present obstacles to possession, and how do consumers attempt to overcome these obstacles?*

Drawing from a longitudinal, qualitative study of 25 consumers and their digital possessions, we identify three distinct types of affordance misalignment - *missing affordances, covert affordances,* and *deficient affordances*. We demonstrate that these affordance misalignments not only present obstacles to consumers' desired interactions with, and experiences of, their digital possessions, but may also impact consumer's wider beliefs surrounding digital objects as possessions in ways that can influence their future consumption behaviours. Furthermore, we document the *alignment strategies* that consumers implement to resolve these affordance misalignments, shedding light on the multiple, interrelated factors that influence consumers' chosen alignment strategy and its behavioural outcomes. We contribute to debates surrounding digital possessions by accounting for prior, contradictory narratives, and challenging claims that digital possessions are inherently less meaningful than physical possessions (Atasoy and Morewedge 2018; Morewedge et al. 2021). Furthermore, though

affordance theory accounts have begun to emerge within consumer research (Borghini et al. 2021; Hoelscher and Chatzidakis 2021; Kozinets et al. 2021), we present an enriched affordance theory lens that can advance our understanding of possession.

THEORETICAL BACKGROUND

We begin by explaining how the concept of possession is defined within consumer research, before reviewing existing work that acknowledges the capacity for both digital and non-digital objects to impact whether and how possession occurs. We then draw from theories of affordance, and complementary concepts in postphenomenology, to introduce a theoretical lens that can shed new light on the ways in which digital objects present obstacles to possession.

Possession in Consumer Research

In consumer research, possession refers to both a distinct type of consumer-object relationship, characterised by the consumer's sense that an item is 'mine', and the consumer-object interactions that create and shape this relationship over time. In other words, possession refers to both an unfolding process and its outcome.

Possession refers to a consumer-object relationship where an individual experiences the object as 'mine' (Belk 1988; Furby 1978; Pierce et al. 2003). Such proprietary feelings are often referred to as 'psychological ownership' (Pierce et al. 2003; Morewedge et al. 2021) and are not dependent upon legal ownership; consumers may experience proprietary feelings towards items they do not legally own yet fail to appropriate items that they do (Belk 1988; McCracken 1986; Pierce and Peck 2018). Whilst the experience of psychological ownership is a defining feature of possession, possession refers to the wider consumer-object relationship and prior research acknowledges significant variation in how possession is experienced by consumers. For instance, possession may involve varying degrees of attachment (Kleine and Baker 2004); it may be a temporary arrangement characterised by detachment (Bardhi and Eckhart 2017; Bardhi et al. 2012) or an enduring consumer-object relationship that consumers value highly and strive to stabilise and protect (Belk et al. 1989; Gregson et al. 2009). Similarly, possessions may hold different meanings for consumers (Richins 1994) and vary in their centrality to consumers'

extended selves (Bardhi and Eckhardt 2017; Belk 1988); 'cherished', 'loved' and 'sacred' possessions that hold indexical associations (Grayson and Shulman 2000) often play an important role in consumers' identities (Ahuvia 2005; Belk et al. 1989; Curasi et al. 2004; Price et al. 2000), yet research has also revealed unwanted possessions charged with negative meanings (Lastovicka and Fernandez 2005) and possessions valued for their utility rather than any personal significance (Bardhi et al. 2012; Gregson 2007; Miller 2008).

Consumer research has also explored possession as an unfolding process - ongoing consumer-object interactions that produce, transform, maintain or destabilise possession as a type of consumer-object relationship. Watkins et al. (2016, 48) argue that possession is *"more than just a psychological phenomenon as it involves practices of using, controlling, caring for and managing objects."* Indeed, researchers have argued that it is via these processes that objects are appropriated as 'mine', imbued with personal significance, and incorporated into consumers' extended selves (Belk 1988; McCracken 1986). Research has documented the 'possession rituals' (McCracken 1986) that consumers employ to intentionally appropriate objects as possessions: 'material transformations' (Türe and Ger 2016) that alter an object's material form (McCracken 1986; Türe and Ger 2016), 'compositional transformations' (Türe and Ger 2016) that repurpose objects within different material and spatial ensembles to alter or reinforce their meanings (e.g. practices of storage and display) (Belk 1995; Miller 2008; Türe and Ger 2016), and 'curatorial practices' (Scaraboto et al. 2016), whereby consumers care for their possessions through acts of cleaning, maintenance, and repair (Gregson et al. 2009; Godfrey et al. 2021; McCracken 1986; Scaraboto et al. 2016). Through such possession rituals, consumers exercise control over, come to intimately know, and invest themselves into objects, and thus appropriate them as 'mine' (Belk 1988; Belk et al. 1989; McCracken 1986; Pierce et al. 2003).

In addition to these possession rituals, consumers' more mundane, everyday interactions with objects – such as using, viewing, or touching objects - can also contribute to the development of proprietary feelings (Belk 1988; McCracken 1986; Peck and Shu 2009; Pierce et al. 2003). Though such acts may not be intended as a means to appropriate objects, they can

also provide opportunities for consumers to establish a sense of control, intimate knowledge and self-investment (Belk 1988). Habitual use, for instance, may lead consumers to appropriate items that are not legally theirs (Grayson and Shulman 2000), whilst acts of sharing or lending an item may reinforce consumers' sense of control over an object (Belk 2010; Jenkins et al. 2014). Indeed, merely touching an item can create proprietary feelings (Peck and Shu 2009), whilst prolonged or regular use can create physical contamination (Belk 1988). Furthermore, such seemingly mundane interactions may enable important indexical meanings to develop as objects' histories become interwoven with consumers' own biographies (Belk 1995; Grayson and Shulman 2000; McCracken 1988).

While possession is typically produced, maintained, and transformed by possession rituals and other intentional consumer-object interactions initiated by consumers, external forces may disrupt the consumer-object relationship. For instance, other individuals or companies may transform, damage, or steal the object (Hill 1991; Jenkins et al. 2014; Watkins et al. 2016), Furthermore, repeated use may cause an object to become dirty, to deteriorate, or to break (Godfrey et al. 2021; Gregson et al. 2009; Scaraboto et al. 2016), whilst new objects or changing consumption practices may disrupt an object's use or meaning (Epp and Price 2010). Such destabilisation may compel further possession rituals, such as repair (Godfrey et al. 2021), cleaning (Scaraboto et al. 2016), or re-incorporation (Epp and Price 2010). However, consumers may be unable to restore possession following such disruptions, such as when items are lost, stolen, or damaged beyond repair (Godfrey et al. 2021; Gregson 2007).

Both dimensions of possession – possession as a consumer-object relationship and as an unfolding process that shapes this relationship - are influenced by consumers' beliefs surrounding possession, which in turn are influenced by wider cultural norms (Belk 2010; Miller 2008; Mauss 1925/1990). For instance, although legal ownership is not a requirement for possession, consumers' expectations surrounding their interactions with an object may be shaped by their wider beliefs surrounding legal ownership and the rights it entails, which are in turn shaped by wider cultural norms. Consequently, consumers may seek legal ownership since

they believe this will stabilise and secure access to their possessions (Rudmin 1990). Similarly, cultural norms may dictate whether a possession can be gifted or resold (Kopytoff 1986; Mauss 1925/1990), or how consumers should treat possessions borrowed from friends or family members (Jenkins et al. 2014). Indeed, cultural norms may influence the forms of possession sought by consumers. Bardhi and Eckhardt (2017) argue that whilst 'solid' consumption – enduring, ownership-based, and deeply attached relationships with possessions - has long been the norm, societal shifts have led to the growing prevalence of liquid consumption, whereby consumers prioritise fluid, fleeting and detached relationships with objects that are usually access-based and have less relevance to the self. Thus, prevailing consumption norms can influence whether and how possession occurs and is experienced by consumers.

How Objects Impact Possession

Key to our study is the capacity for objects to impact whether and how possession occurs. We therefore review extant literature that acknowledges objects' role in possession. Several studies have done so by attending to objects' characteristics or features. For instance, Gruen (2017) found that design features such as uniformity and personalisation enabled consumers to experience temporary feelings of possession towards shared cars in an access-based system. In a similar vein, Mardon and Belk (2018) consider how digital object characteristics may influence the practice of collecting – a distinct form of possession. Recognising that object characteristics are not fixed, but subject to configuration, they propose that the characteristics of elusiveness and authenticity that are challenged by the material substance of digital code can be materially configured using design techniques. Though they do not explore this phenomenon empirically, they propose that altering digital objects' characteristics in this way may increase both the pleasure consumers experience in acquiring and possessing these items and the personal significance of these possessions. Other research acknowledges that objects may shape how consumers interact with them and, in doing so, may influence whether and how possession is experienced by consumers. Scaraboto et al. (2016) demonstrate that the plastic shoes produced by the brand Melissa require constant cleaning to prevent the development of odours – thus the

material substance of the shoes influences the frequency of certain curatorial practices. Similarly, Türe and Ger's (2016) research on heirloom rejuvenation acknowledges that objects differ in their suitability for practices of material transformation, requiring varying levels of competence in relevant crafts, though this is not a key focus in their analysis. Other research has acknowledged the potential for objects to restrict consumers' agency in possession. Focusing on digital commodities such as ebooks and digital music, Watkins et al. (2016, 51) propose that legal ownership arrangements "[make] *certain configurations of possession possible while denying others."* For instance, restrictions encoded into digital objects may limit their biographies by preventing sharing and bequeathal or create obstacles to appropriation by restricting material transformation. However, they do not study such restrictions empirically, and therefore we lack an understanding of how consumers may experience and respond to them.

Beyond the field of consumer research, design researchers have explored the potential for companies to design objects that *"create the conditions in which users can take possession"* (Baxter and Aurisicchio 2018, 124). Drawing from theories of affordance (Gibson 1979; Norman 2013), Baxter et al. (2015, 144) propose that each of the routes to possession identified by Belk (1988) (control, intimate knowledge, and self-investment) can be linked to corresponding affordances. For instance, control can be facilitated by an object that affords the user the capacity to transform its material form, intimate knowledge can be facilitated by an object that develops traces of consumer-object interactions, whilst self-investment can be facilitated by enabling the consumer to bring the object into existence or to personalise it. Thus, whilst Scaraboto et al. (2016) and Türe and Ger (2016) acknowledge the capacity for the material substance of a consumption object to influence consumer-object relations, Baxter et al. (2015) instead focus on affordances supported by features created by the object's designers.

These studies provide initial insight into the capacity for an object to influence whether and how consumers experience it as a possession. However, as we shall explain below, a more nuanced approach to affordances can extend our understanding of objects' capacity to impact – or, in our proposed terminology, 'mediate' – possession.

Affordances, Affordance Misalignment, and Mediation

The concept of affordance was first introduced by ecological psychologist James J. Gibson as a means to understand the mutual constitution of organisms and environments. In his seminal book *The Ecological Approach to Visual Perception*, he proposed that:

> *"the* affordances *of an environment are what it* offers *the animal, what it* provides *or* furnishes*, either for good or ill* […] *I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment"* (Gibson 1979, 127, emphasis in original)

Thus, for Gibson (1979), affordances have a bidirectional relationality - they are the action possibilities that derive from the relationship between objects and subjects. From this perspective, whilst objects may have objective qualities or properties, *"what we perceive when we look at objects are their affordances, not their qualities"* (Gibson 1979, 134), and these affordances exist only in the object's relation to socially situated subjects.

Although well theorised in other fields, affordances remain under-conceptualised within consumer research. Whilst several recent studies have drawn from theories of affordance (Borghini et al. 2021; Hoelscher and Chatzidakis 2021; Kozinets et al. 2021), we advance the field's application of affordance theory in four ways: 1) by further exploring the conditions of affordance, 2) by acknowledging a wider array of affordance mechanisms, 3) by recognising the role of imagined affordances and introducing the concept of affordance misalignment, and 4) by drawing from postphenomenology to acknowledge that affordance misalignments can result in both pragmatic and hermeneutic mediation. We explain each of these advances below.

Conditions of Affordance. As noted above, affordances are ontologically bidirectional; they are not a quality of the object in isolation but manifest in the object's relationship with a socially situated subject (Gibson 1979). Davis (2020) builds on Gibson's (1979) work by proposing that affordances are shaped by three interrelated conditions, referred to as the *conditions of affordance*: perceptions (consumers' awareness that the object affords an action), dexterity (consumers' ability to execute the action in respect to the object, which is dependent on both their physical ability and cognitive aptitude) and cultural and institutional legitimacy

(the extent to which wider cultural norms support the consumer in executing the action with respect to the object) (see also Davis and Chouinard 2016). These conditions are interrelated, mutually shaping one another (Davis 2020). For instance, someone with a high level of dexterity with respect to an object is likely to perceive a wide range of affordances. Indeed, Neff notes that hackers are likely to see digital systems as full of possibility, whereas for most consumers their affordances appear fixed and therefore more limited (Neff et al. 2012). Similarly, cultural legitimacy may influence dexterity. For example, in many cultures men have traditionally been portrayed as more technologically inclined than women and may therefore be more likely to explore new technologies, increasing their dexterity (Davis 2020).

Although consumer research studies that have applied an affordance lens typically acknowledge the relational nature of affordances when defining the concept, their analyses often focus upon the properties or features of the object or space under discussion, overlooking the ways in which affordances may manifest differently for different consumers (Hoelscher and Chatzidakis 2021; Kozinets et al. 2021). Baxter et al.'s (2015) work on possession affordances similarly acknowledges the relational nature of affordances but does not attend to the various conditions of affordance that may influence whether and how objects afford. We therefore advance consumer research's application of affordance theory by attending to the various conditions that may shape object affordances, enabling us to account for contextual variation that would not otherwise be captured. We build on prior work that acknowledges that different objects may produce different consumer-object interactions and experiences in possession due to varying material qualities (Mardon and Belk 2018; Scaraboto et al. 2016) by recognising how and why the same object may present different affordances to different consumers.

Affordance Mechanisms. Affordance theory has been criticised for its apparently binary approach, with objects either affording or not affording an action, thus making actions seemingly either possible or impossible (Davis 2020). Indeed, with the exception of Borghini et al. (2021), applications of affordance theory within consumer research tend to impose this false binary (Hoelscher and Chatzidakis 2021; Kozinets et al. 2021), as does Baxter et al.'s (2015)

study of possession affordances. Davis (2020, 8) notes that this binary approach is limiting, failing to recognise that *"human-technology relations are a subtle dance in which technological objects push and pull with varying degrees of insistence."* However, Davis (2020) proposes that this limitation is easily resolved by asking not *what* objects afford, but *how* they afford. To assist researchers in answering this question, Davis (2020, see also Davis and Chouinard 2016) proposes an array of *affordance mechanisms* that recognise the varying ways in which objects afford – they may request, demand, encourage, discourage, refuse, or allow (see Table 1).

'Requests' and 'demands' refer to consumer-object interactions initiated by the object, which attempts to guide the consumer to interact with it in a specific way, with varying degrees of force – as Davis (2020, 70, emphasis in original) puts it, "*requests* prefer, and *demands* insist." In contrast, 'encourage', 'discourage', and 'refuse' refer to the ways in which objects respond when consumers initiate an interaction; where objects encourage, they make the consumer's desired interaction readily and seamlessly available, whereas objects that discourage create barriers to this interaction, and objects that refuse render this interaction untenable (Davis 2020). In contrast, 'allow' is distinct from other affordance mechanisms due to its neutrality – objects allow when a user is able to interact with an object in a given way, but the object doesn't attempt to persuade or dissuade consumers from actualising this affordance. Thus, Davis' (2020) affordance mechanisms framework acknowledges that objects do not simply afford or not afford in a binary manner but afford in different ways with varying degrees of force or pressure. Davis (2020) acknowledges that these mechanisms are porous and that there is variation within each proposed affordance mechanism, in part due to variations in the conditions of affordance discussed above. For instance, she notes that consumers may be more likely to follow a request made by police tape than a request made by a rope fence, due to the distinct institutional and cultural legitimacy surrounding the former object. Similarly, a consumer with low dexterity relative to an object may find that it refuses their desired interaction, but for a more dextrous consumer the interaction may simply be discouraged, with barriers or obstacles easily overcome.

Table 1 – Overview of affordance mechanisms, adapted from Davis (2020)

Mechanism	Definition	**Example**
Demand	*"Demands exert a strong degree of force. Rather than asking someone to "Please do this, and please do not do that," a demand more firmly states, "You will do this, and you will not do that."* […] *People may opt out of using a technology or may subvert a demand in their use of the technology (though subversion requires significant effort and perhaps a degree of courage and risk)"* (68-70)	Train tracks demand that trains follow their rails, since if they do not, they become dysfunctional.
Request	*"When a technology requests, it emphasizes a particular set of actions, deemphasizing other action possibilities. A user may abide by a request, ignore a request, or address it only partially. A request necessarily entails a degree of flexibility. The technology persuades in one direction but leaves alternate options open."* (66-67)	A rope fence requests that walkers stay outside of/within a given perimeter, but an individual may easily step over or duck under the rope if they wish to.
Encourage	*"Technological objects encourage some line of action when that line of action is made easy and appealing. The action is generally obvious, expected, and seamless to execute. Those lines of action that are encouraged often represent the very things a technology was built to accomplish. Users need to employ little or no creativity, deviance, or subterfuge to engage the technology in encouraged ways"* (72)	Smartphones with front facing cameras encourage self-portraiture by making taking 'selfies' easy and seamless.
Discourage	*"Objects discourage when their architectures and normative structures erect obstacles. Whatever is discouraged is nonobvious and requires a degree of extra effort on the part of users. The action is available and plausible, but getting to it is not seamless. Users may need to employ creativity and technical savvy and be willing and able to circumvent norms and rules."* (74-75)	Twitter discourages long-form content by imposing character limits; however, users can circumvent this restriction by attaching screenshots of longer pieces of text to tweets.
Refuse	*"A line of action is refused when it is implausible and/or impossible. A technological object may be designed in a way that renders certain functions untenable."* (77)	A low bridge will refuse to let double decker buses and other large vehicles through.
Allow	*"Allow is distinct from other mechanisms of affordance due to its neutral intensity and multidirectional application. A user may take a line of action, but there is no pressure to do so, and there are no significant obstacles in the way."* (80)	Multispeed blenders often allow people to select various speeds but do not typically try to persuade users towards a specific speed.

These affordance mechanisms have received limited attention within consumer research. The exception is Borghini et al. (2021), whose study of retail spaces refers to Davis and Chouinard's (2016) initial discussion of affordance mechanisms. However, their analysis refers only to the capacity for retail spaces to allow, encourage, and discourage certain interactions and does not identify instances in which these spaces may more forcefully demand, request, or refuse. There is therefore a need for consumer research to recognise a fuller spectrum of affordance mechanisms, acknowledging important variations. For instance, in reflecting on existing research through the lens of affordance mechanisms, we can see that

Türe and Ger's (2016) participant's embroidered sheets appear to neutrally 'allow' her to rejuvenate them into a bedcover, whilst in contrast, the internet connected toaster in Hoffman and Novak's (2018) study of smart objects, which flips its lever to attract consumer attention, appears to actively 'request' interaction. Such variations in how objects afford may have important implications for how consumers interact with and experience them as possessions.

Imagined Affordances and Affordance (Mis)Alignment. Communication technology scholars Nagy and Neff (2015) expanded theories of affordance by introducing the concept of imagined affordances, which refers to consumers' expectations as to which actions an object will afford. Imagined affordances can vary significantly between consumers. For instance, Freeman and Neff (2021) found that teenagers imagined the affordances of digital self-tracking technologies differently to adults. Consumers' imagined affordances may be informed by a range of factors, including their past experiences with the object and with other objects, their observations of others' interactions with the object, the object's design, marketing communications surrounding the object, and wider cultural norms (Nagy and Neff 2015). Nagy and Neff (2015) developed the concept of imagined affordance to account for the role that users' expectations play in the identification of affordances. They propose that *"affordances can include the expectations and beliefs of users, whether or not they are "true" or "right.""*, which *"shape how they approach* [the object] *and what actions they think are suggested"* (Nagy and Neff 2015, 4-5). In other words, consumers' imagined affordances can influence the affordances they perceive and thus their interactions with the object. The concept of imagined affordances has yet to enter consumer research, however it has the potential to shed new light on how consumers experience and make sense of objects' affordances.

Whilst Nagy and Neff (2015) focus on the role that imagined affordances play in the perception of affordances, we propose that they may also influence how consumers experience, make sense of, and respond to these affordances. The alignment between consumers' imagined affordances and the object affordances that they encounter may influence, for instance, whether these affordances are perceived as remarkable or unremarkable, fair or unfair, restrictive or

unrestrictive, thus influencing how consumers make sense of and experience an object. In the context of digital possessions, we see particular value in attending to instances where imagined affordances and object affordances do not neatly align. As previously discussed, Baxter et al. (2015) identify object affordances that facilitate possession, but what happens when these affordances are expected but not actualised, and thus objects do not behave as consumers anticipate? We propose that focusing on such affordance misalignments can help us to understand how digital objects present obstacles to possession, shedding new light on the varied and contradictory accounts of digital possessions in consumer research.

Pragmatic and Hermeneutic Mediation. Drawing from theories of affordance, and focusing our attention on affordance misalignments, enables us to shed new light on *how* objects impact possession. However, a key question remains - what aspects of possession are impacted by these affordance misalignments? Combining affordance theory with postphenomenology enables us to capture the multiple dimensions of possession that are impacted (or, to use postphenomenological terminology, 'mediated').

In postphenomenology, objects are not passive intermediaries that simply enable human subjects to execute desired actions, but rather they actively mediate reality – they shape the relationship between humans and the world (Ihde 1990; Verbeek 2005, 2006, 2016). Postphenomenologists do not argue that the capacity to mediate is an intrinsic property of the object itself, but rather, consistent with affordance theory's ontological bidirectionality, propose that socially situated subjects co-produce these mediations and that both subjects and objects emerge only in their connection with one another (Ihde 1990; Verbeek 2005, 2006, 2016). Consequently, in line with affordance theory, postphenomenology acknowledges that the same object may mediate reality in different ways in different circumstances (Ihde 1990; Verbeek 2005, 2006, 2016). However, postphenomenology advances affordance theory by recognising that objects can mediate multiple, interrelated dimensions of reality. Whilst affordance theory emphasises the mediation of action (Gibson 1997), referred to in postphenomenology as 'pragmatic mediation', postphenomenology acknowledges that objects may also mediate how

we see, experience, and interpret the world (termed 'hermeneutic mediation') (Verbeek 2005, 2006, 2016). For example, ultrasound technology enables medical professionals and expecting parents to see a foetus in a way that is not possible without this technology, which may transform the way they experience it, as well as their resultant beliefs and actions (Verbeek 2006). Thus, to understand how affordance misalignments mediate possession we must acknowledge not only the pragmatic mediation that is the focus of affordance theory, but also hermeneutic mediation.

This multi-dimensional mediation is not fully accounted for in prior applications of affordance theory in consumer research. This work acknowledges the capacity for affordances to mediate actions in ways that, in turn, mediate experiences (e.g., whether consumers feel empowered or how they experience retail spaces) (Borghini et al. 2021; Hoelscher and Chatzidakis 2021; Kozinets et al. 2021). However, less attention is granted to the capacity for objects to mediate consumers' wider beliefs; the authors do not consider how consumers might re-think their underlying assumptions or expectations surrounding empowerment or retail spaces as a result of these experiences. Prior research on objects' role in possession has similarly provided limited insight into hermeneutic mediation; this work observes implications for consumers' proprietary feelings towards objects (Baxter et al. 2015; Gruen 2017) but does not explore the capacity for objects to mediate consumers' wider beliefs surrounding possession. Indeed, whilst extant literature recognises that possession is shaped by consumers' beliefs, which are in turn shaped by wider cultural norms (Bardhi and Eckhardt 2017; Bardhi et al. 2012; Belk 2010; Graeber 2011), this work does not consider how objects may mediate these beliefs. Drawing from the postphenomenological notion of hermeneutic mediation sensitises us to the implications of affordance misalignments not only for consumer-object interactions in possession, and consumers' experience of the mediating object as a possession, but also for consumers' wider beliefs surrounding possession and thus their future consumption behaviours.

In summary, we have drawn from recent developments in affordance theory, as well as complementary concepts in postphenomenology, to enrich consumer research's approach to

affordance theory in several key ways. Informed by this lens, we seek to examine affordance misalignments, whereby digital objects do not behave as consumers anticipate and thus may present obstacles to possession. We aim to explore the types of misalignments that occur, and to document the ways in which these affordance misalignments may mediate possession at both pragmatic and hermeneutic levels. Furthermore, we seek to explore the ways in which consumers may attempt to resolve these misalignments.

METHODOLOGY

To capture insightful glimpses of affordance misalignments in the context of digital possessions, we gathered both first-person experiential anecdotes (using participant interviews and interim correspondence) and third-person observational anecdotes (via fieldnotes and photographs from participant interviews, as well as object interrogation) (Adams and Thompson 2016).

We gathered first-person experiential anecdotes of consumer-object interactions in possession via depth interviews. The first author interviewed 25 UK consumers, recruited via a combination of online and offline advertisements and snowball sampling. Participants' ages ranged from 17–80 when first interviewed, and they varied in terms of family mix and occupation (see Table 2). However, when recruiting participants our primary concern was to ensure that our sample collectively consumed a broad array of digital objects, enabling us to explore variations in affordance alignment and the resultant mediation of possession. In line with prior studies of possessions (Ahuvia 2005; Csíkszentmihályi and Rochberg-Halton 1981; Epp and Price 2010; Gregson 2007; Miller 2008), interviews were conducted in participants' homes, enabling first-hand observation of the digital objects discussed. Participants were asked to show the researcher digital objects they perceived as 'mine' and to describe in detail their interactions with, and experiences of, these objects. Where participants expressed uncertainty surrounding their possession of an item, they were encouraged to reflect upon this uncertainty. The first author conducted follow-up interviews with participants at intervals ranging from several months to two years to document shifts in consumer-object interactions over time, as well as changes in participants' possession experiences, and their wider beliefs surrounding possession.

Participation in these follow-up interviews was dependent on participants' willingness to continue to contribute to the project, however all participants completed at least two interviews, and some were interviewed as many as five times over the course of the study.

Table 2 – Participant characteristics

Pseudonym	Age/ Sex*	Occupation*	Family mix*	Interviews	Interim anecdotes
Becky	17/F	High school student	Single	5	6
Tom	18/M	University student	Single	4	3
Lauren	22/F	Social media co-ordinator	Cohabiting	5	4
Charlie	23/M	Junior financial analyst	Single	2	1
Holly	23/F	Customer service advisor	Cohabiting, 1 child	4	5
James	23/M	Unemployed	Single	2	1
Richard	23/M	Sales executive	Cohabiting	5	6
Stephen	24/M	Videogame developer	Single	3	2
Natalie	25/F	TV producer	Single	4	3
Andrew	26/M	University student	Single	3	2
Melissa	29/F	PhD candidate & lecturer	In a relationship	3	2
Chloe	30/F	Government researcher	Cohabiting	2	1
Alice	30/F	PR consultant	Married, 1 child	5	7
Louise	32/F	Bookkeeping	Married, 1 child	4	5
Sophie	33/F	Council worker	Cohabiting	2	1
Eve	35/F	Artist	Married	3	4
Ben	41/M	Digital designer	Married, 1 child	2	2
Jane	43/F	Business Analyst	Married, 1 child	2	2
Sue	45/F	Unemployed	Cohabiting	2	1
Gareth	52/M	Computer programmer	Married, adult children	2	4
Sylvia	57/F	Carer	Married, adult children	3	2
David	65/M	Teacher	Married	2	2
Tracy	67/F	Retired	Married, adult children	2	1
Graham	73/M	Retired	Married, adult children	2	3
Leonard	80/M	Retired	Married, adult children	4	7

* *at first participation*

Measures were taken to capture objects' mediating role in possession. The interviewer prompted interviewees to recount their interactions with the objects discussed in lived-through detail (e.g., "Can you think back to the last time you used this item? Can you talk me through what happened?") in order to produce vivid accounts of consumer-object interactions (Adams and Thompson 2016). Furthermore, since individuals become better attuned to objects' mediating role when they break, go missing, or act unpredictably (Adams and Thompson 2016; Verbeek 2005), the interviewer prompted participants to reflect on such incidents (e.g., "Have you ever experienced a situation where a digital object didn't act as you expected? Can you

describe what happened?"). Participants were also encouraged to capture noteworthy incidents in real-time in-between their interviews by sending written anecdotes to the lead researcher via email or instant message. Participants were then probed for further detail immediately via their chosen method of correspondence, and later in their subsequent follow-up interviews. Capturing interim anecdotes reduced the likelihood that these incidents would be forgotten and enabled us to capture consumers' experiences of, and reflections on, noteworthy incidents in rich detail whilst they were fresh in participants' minds. As illustrated by Table 2, some participants were more active than others in their submission of interim anecdotes, however all participants submitted at least one over the course of the study.

Participants' first-person experiential anecdotes were complemented by third-person observational anecdotes that captured consumer-object interactions and objects' material properties. Since the consumer-object interactions that shape possession occur in a dispersed and unpredictable manner - fleeting moments of interaction spread across many months and years - it was not possible for us to observe the mediation of possession in real-time through extended ethnographic observation. However, in line with prior studies of material possessions (Epp and Price 2010; Gregson 2007; Miller 2008), conducting the interviews in participants' homes enabled us to observe participants' interactions with their digital possessions in situ, and captures these observations via researcher fieldnotes and photographs. Furthermore, we turned our attention to the objects themselves to explore their material properties, which underpin their affordances. Whilst alternative approaches such as actor-network theory strive to produce descriptive accounts of extensive networks of actants (Latour 2005), Adams and Thompson (2016) propose that we should instead focus on *influential* actants that appear to play an important mediating role. Once an object was identified as influential, based upon our analysis of collected anecdotes (participant interviews, interim anecdotes, researcher's interview fieldnotes), be it a piece of software, a digital file, or an online platform, we accessed and studied it in more detail in order to better understand its material properties (e.g., components, features, design). These observations were captured via detailed researcher fieldnotes, compiled by the

first author. This additional level of analysis enabled us to distinguish between the object's material properties and the object affordances that manifested in relation to socially situated participants, assisting us in observing how various conditions of affordance (e.g., perception, dexterity) influenced their manifestation. Furthermore, this analysis shed further light on how objects' design and the communications surrounding objects (e.g., terminology used on various platforms and software) could shape consumers' imagined affordances with respect to the object.

All interview audio recordings were transcribed verbatim and combined with participants' interim anecdotes, researcher fieldnotes, and photographs. Adopting a hermeneutic approach (Thompson 1997), we first analysed each piece of data separately in order to identify the object affordances, imagined affordances, consumer-object interactions, consumer experiences and consumer beliefs captured. We then considered each participant's data as a whole to capture how affordance misalignments mediated possession in each case, before looking for recurring patterns across the dataset. Data collection and analysis took place concurrently, meaning that any gaps in our understanding, or new questions raised by our emergent analysis, were addressed by further data collection until all members of the research team agreed that theoretical saturation had been reached.

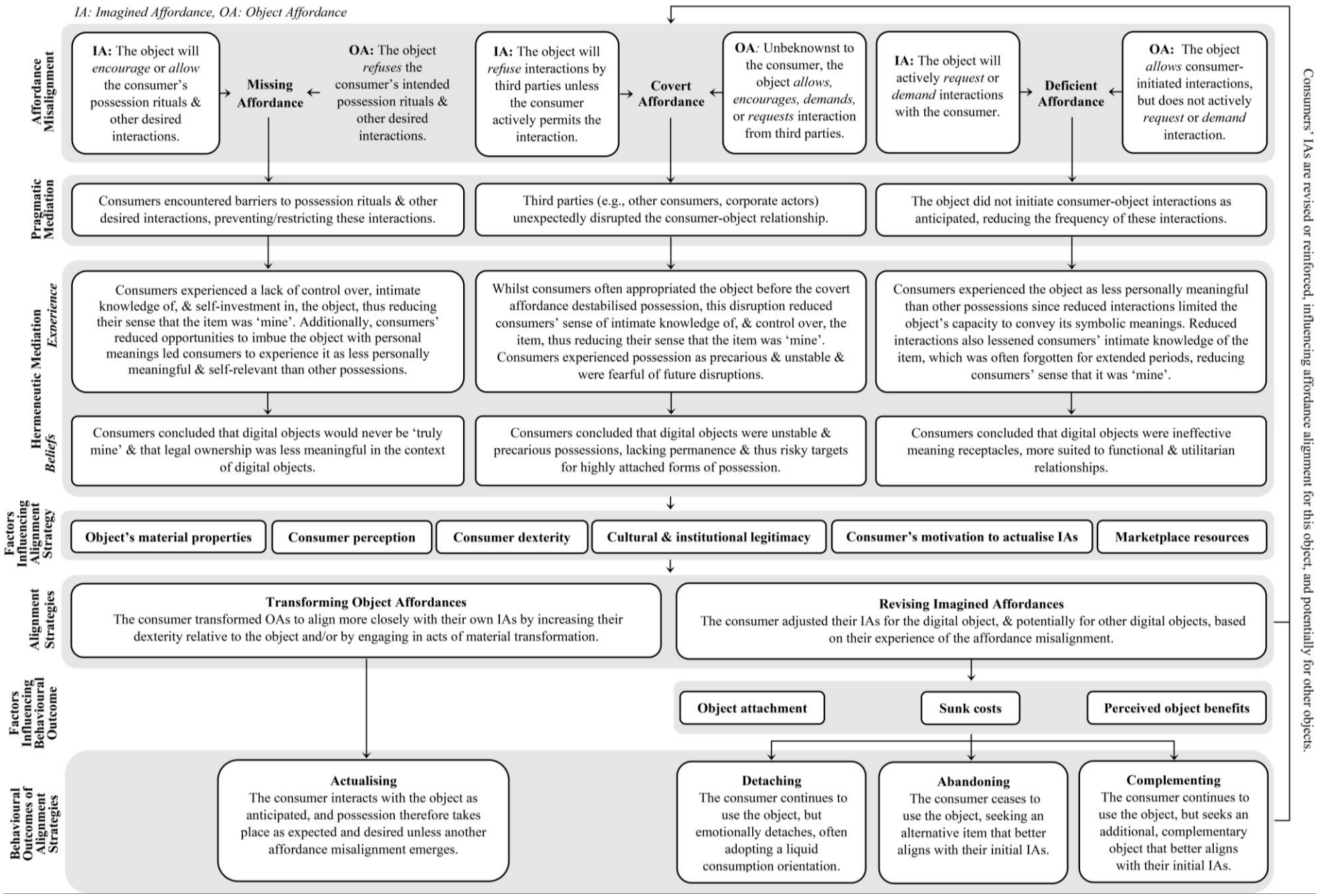
FINDINGS

An overview of our findings can be found in Figure 1. We found that participants approached digital objects with imagined affordances informed by their own previous experiences of possession, often expecting digital objects' affordances to mirror those of their other possessions. In some cases, digital objects' affordances aligned neatly with these imagined affordances, and consequently possession took place in a manner that participants found largely unremarkable. However, digital objects frequently did *not* behave as participants expected, and consequently possession did not occur as anticipated. We identified three recurring types of affordance misalignment, which we term 1) missing affordances, 2) covert affordances, and 3) deficient affordances. These misalignments are not necessarily unique to digital objects, but rather refer to particular types of misalignment between consumers' imagined affordances relative to the

object and the object affordances they encounter. We shall introduce each form of affordance misalignment in turn, revealing its underpinning imagined and object affordances, and documenting the resultant interplay of pragmatic and hermeneutic mediation in possession. We observed two distinct forms of hermeneutic mediation in our data – mediation of the consumer's experience of the mediating digital object as a possession and mediation of the consumer's wider beliefs surrounding digital objects as possessions. We explore both forms of hermeneutic mediation in our analysis and they are captured separately in Figure 1.

Our analysis also highlights two alignment strategies implemented by participants to resolve affordance misalignments – 1) transforming object affordances and 2) revising imagined affordances. These alignment strategies are not specific to any single form of affordance misalignment; we observed the performance of both strategies in response to all three types of misalignment. The former alignment strategy involves consumers transforming digital objects' affordances to better match their imagined affordances. Consumers did so by increasing their dexterity in relation to the object (e.g., by investigating its features, or watching online tutorials) and/or by materially transforming the properties of the object itself. However, consumers' ability to adopt this alignment strategy was influenced by a range of factors, including their own perceptions (i.e., whether they perceived a way to transform the object's affordances), dexterity (i.e., whether they had, or were able to develop, the knowledge and skills necessary to materially transform the object), and motivation (i.e., the amount of time and effort they were willing to invest in actualising their imagined affordances), as well as the digital objects' properties (i.e., to what extent the object was designed to afford acts of material transformation by consumers), wider issues of cultural and institutional legitimacy (i.e., the extent to which wider cultural norms supported such transformation), and the availability of marketplace resources (i.e., whether resources to increase consumers' dexterity relative to the object and/or to aid desired practices of material transformations were freely and widely available). Successfully transforming digital objects' affordances enabled consumers to actualise their imagined affordances, enabling them to interact with the object as expected and experience possession as anticipated and desired.

Figure 1 – How Affordance Misalignments Mediate Possession



However, participants often found themselves unable or unwilling to transform objects' affordances. In such cases, they instead adopted an alternative alignment strategy - revising their imagined affordances relative to the digital object, and often for other digital objects, based on their experience of the affordance misalignment. Where consumers adjusted their imagined affordances, they typically adopted one of three recurring behavioural responses – detaching, abandoning, and complementing – with their response influenced by factors such as their attachment to the object, sunk costs, and the perceived benefits of the object. For instance, consumers who were particularly attached to their digital possessions, had invested a significant amount of time, effort, or money in acquiring, appropriating and/or managing their digital possessions, or perceived significant benefits to their digital possessions despite their drawbacks, were less likely to abandon them outright and were more likely to emotionally detach from the item or complement its use with alternative items (either physical or digital).

We shall now illustrate the missing affordances identified, highlighting resultant pragmatic and hermeneutic mediations and documenting consumers' alignment strategies. In line with prior consumer research (Beverland et al. 2021; Cayla and Eckhardt 2008), in order to achieve thick description when presenting our findings, we have selected one exemplar from our dataset to illustrate each type of affordance misalignment. We refer to additional examples where necessary to illustrate variations in consumers' alignment strategies.

Missing Affordances

Missing affordances occur when a consumer expects the object to *encourage* or *allow* their intended possession rituals and other desired interactions (imagined affordance) but finds that the object *refuses* these interactions (object affordance). Thus, from the consumer's perspective, the affordance is 'missing'. Missing affordances occurred frequently within our study, since our participants' preconceived understandings of possession often aligned with the notion of possession as dominion over the possessed object (Belk 1988; Graeber 2011), with consumers emphasising expectations of control. Whilst these imagined affordances were also shaped by wider cultural norms surrounding possession, they were highly influenced by participants'

previous experiences of dominion over possessed objects. Indeed, when articulating their imagined affordances participants drew explicit comparisons with other possessions, explaining that they expected to be able to interact with their digital possessions in a similar manner.

For instance, Eve provided an account of a missing affordance in the context of her digital music collection. Eve possessed a sizeable collection of personally meaningful vinyl records, which were displayed on shelves in her living room. She had carefully organised this collection into personally meaningful categories (e.g., "*dinner party music"*) and stored her least favored records (e.g., embarrassing *"guilty pleasures"*) separately on the bottom shelf, where they were less visible. Eve had anticipated that she would be able to organise her digital music collection within media-player software iTunes in a similar manner:

> *I can literally picture how I want it. I want it* [my digital music organised] *pretty similar to my records. I want to group things into the same genres and occasions. I want to store my guilty pleasures more discretely, hide them away, separate from the rest.* […] *If it's my music then I should be able to organise it however I want, surely? I've bought it, I've downloaded it, I own it, so surely that's only fair? If I own it, I should be able to use it however I want, the same way I organise my records however I want.* (Interview excerpt, Eve)

Here we gain insight into Eve's imagined affordances; she expected that purchasing digital music within iTunes would involve a transfer of legal ownership that would enable her to use these items as desired, without restriction. In reality, this is rarely the case for purchased digital commodities (Watkins et al. 2016). However, for Eve, and for many of our participants, the terminology used by the companies that sold the digital objects discussed – 'buy now' in the case of iTunes music – was interpreted as an indication of a full transfer of legal ownership, activating corresponding imagined affordances that influenced consumers interactions with, and experiences of, digital objects. Indeed, Eve's misconception that she held full legal ownership of her purchased iTunes music underpinned her imagined affordances, as she anticipated the same level of freedom and control that she had previously experienced over her purchased and legally owned vinyl records. These expectations were common amongst our participants, who often expected to be able to freely customise, organise, display, share, lend, or gift digital objects.

Such imagined affordances were unproblematic when digital objects enabled consumers to interact with them as anticipated. However, issues arose when consumers attempted to actualise

imagined affordances that were not aligned with a digital object's affordances. For instance, Eve explained that the iTunes software offered only a limited selection of automated organisational methods, none of which enabled her to organise her digital music collection as desired:

> *The thing I don't like about iTunes, with this whole alphabetical organising thing* [the software automatically organised songs alphabetically], *is that it means you can't hide stuff so easily. So, say the album you want to hide begins with A, it's there every time you open up your iTunes. To be fair, that* [automated alphabetisation] *probably suits a lot of people but it doesn't suit me.* […] *There are some other options. You can sort by genre, but then iTunes sorts it differently to how I'd sort it. Let me find an example… yeah, so this* [song] *here is* [assigned the genre] *'hip hop/rap' - that's not how I'd classify it personally.* […] *And sometimes genre isn't that useful, anyway. I prefer to have things like 'music for dinner parties', and 'music for relaxing or reading to', that's more useful to me. So, I can sort by iTunes' genres, but it still feels like I'm letting someone else organise it their way, not mine. It won't let me do it my way.* (Interview excerpt, Eve)

Thus, the iTunes software demanded that Eve select one of its pre-determined organisational methods and refused to permit Eve's desired approach. Our interrogation of the software that Eve was using (iTunes 10) revealed that the software's features could have enabled Eve to achieve her desired organisational structure for her digital music:

> *The iTunes software gives users the option to delete the 'genre' automatically assigned to each album/song by the iTunes software and to assign their own genre (e.g., 'dinner party'), which could potentially have provided a 'workaround' to enable Eve to achieve her desired organisational structure.* (Researcher fieldnotes from interrogation of the iTunes 10 software)

However, Eve did not *perceive* this affordance, instead seeing the automated options described above as the only available organisational methods, and therefore the software refused her intended interaction. Here we see an illustration of the importance of consumers' perceptions in shaping an object's affordances (Davis 2020; Gibson 1979). It is also important to note that this affordance misalignment is rooted in Eve's imagined affordances. As she acknowledges, automated alphabetisation "*probably suits a lot of people but it doesn't suit me."* Consumers seeking to alphabetise their digital music collections using the iTunes software would not encounter a missing affordance. However, Eve's distinct imagined affordance, shaped by her past experiences of possessing vinyl records, does not align with the iTunes software's affordances. The affordance is therefore experienced as missing - expected but absent.

This missing affordance mediated possession at a pragmatic level by preventing Eve from organising and displaying her digital music collection as desired:

> *I mean, that's not how I want my collection to look. When I open iTunes, I want to see the albums or the songs that are most, like, representative of me, you know? The ones that, sort of, showcase my taste in music, if you see what I mean? That's what I want. That's how I want it to be. But instead, the list starts with some random song I downloaded for a party a year ago that I don't even like that much, because that's just how iTunes does it.* […] *I want to hide certain songs, but I can't. I want to organise it my way, but it won't let me.* (Interview excerpt, Eve)

Indeed, we found that missing affordances often mediated pragmatically by restricting consumers' agency in possession rituals. In Eve's case it restricted her agency in compositional transformation, however we also observed instances in which missing affordances restricted consumers' agency in material transformations (e.g., videogame software limiting the customisation of in-game avatars) and biographical transitions (e.g., e-reader software preventing practices of lending ebooks to other consumers). Whilst in the case of Eve's iTunes music, the missing affordance resulted from Eve's failure to perceive an existing feature of the software, in other instances digital objects were designed, intentionally or unintentionally, to refuse participants' desired interactions.

This pragmatic mediation of consumer-object interactions in possession resulted in hermeneutic mediation, influencing Eve's experience of her digital music as a possession. Throughout the above interview excerpts, rather than emphasising her own agency, Eve instead emphasises the agency of the iTunes software (e.g., *"iTunes sorts it", "that's just how iTunes does it"*) and it became evident that Eve felt limited control over her digital music (e.g., *"I want to hide certain songs, but I can't", "It won't let me do it my way"*). Eve expressed frustration at the unfairness of these restrictions, drawing comparisons with her vinyl records to highlight the impact of this perceived lack of agency on her experience of her digital music as a possession:

> *My records are truly mine, they're my collection, if you see what I mean, whereas my digital music is… kind of mine, kind of not, if that makes sense? I don't feel ownership* [of my digital music] *to the same extent as my records* […] *My records are organised exactly how I like them, I can do what I want with them, so they feel like they're mine, much more than the iTunes music. With my digital music… in a sense I feel that it's mine because I bought it, I paid for it, so really, it's technically mine, but then on the other hand I can't organise it how I want it. I can't put it into categories, can't display it in the*

> *way that I want to. So, I feel like I have a lot less control over my music on iTunes versus my records.* […] *I haven't been able to put my stamp on the collection in the same way, everything's just automated and generic. iTunes organises it not me. So, it doesn't feel as personal to me. It doesn't feel mine in the same way.* (Interview excerpt, Eve)

Here we see that Eve's feeling of rightful ownership, stemming from her association of purchase with legal ownership, was contradicted by a missing affordance that reduced her proprietary feelings towards her digital music by inhibiting two of the routes to possession identified by Belk (1988); it lessened Eve's sense of control over the object by restricting her agency in compositional transformation, which simultaneously limited her capacity to invest herself in the object through a possession ritual that would mark her collection as uniquely hers. Though not a prominent theme in Eve's relationship with her digital music, missing affordances' prevention or restriction of possession rituals could also reduce consumers' sense of intimate knowledge of digital objects by reducing this key form of consumer-object interaction, further reducing consumers' proprietary feelings. Eve's digital music collection was therefore experienced as a quasi-possession that was simultaneously *"kind of mine, kind of not"* – a common experiential outcome in cases of missing affordances. Eve's account highlights the importance of participants' other possessions in their sensemaking surrounding affordance misalignments; her digital music was held up against the ideal of her vinyl records and found wanting. Indeed, in instances of missing affordances our participants frequently drew comparisons with physical possessions, particularly where there was an obvious equivalent (e.g., digital music and vinyl records, digital and analogue photographs), concluding that their digital possessions were less 'mine' than their physical counterparts. Thus, whilst extant literature has highlighted object features and affordances that facilitate the appropriation of objects as possessions (Baxter and Aurisicchio 2018; Gruen 2017), we demonstrate that missing affordances can create obstacles to such appropriation, resulting in limited and conflicted experiences of possession.

Beyond impeding consumers' experience of the mediating object itself as a possession, missing affordances also mediated at a hermeneutic level by prompting consumers to reflect upon and adjust their wider beliefs surrounding digital objects as possessions. In making sense

of missing affordances, participants often generalised their experiences to digital objects as a category, drawing conclusions surrounding their suitability as targets for possession. For instance, Eve concluded that digital objects are *"never properly yours"*:

> *It's made me really question things. I just expected the experience of owning music to be essentially the same. This experience has taught me that that's not the case.* […] *When I originally started buying digital music on iTunes, I was trying to build up a proper collection. I thought it was important to buy it, to own it, and have my own copies, and then I realised that ownership has become a bit meaningless with digital music. I don't need to buy it when it's digital, owning it doesn't add anything, it's not real ownership.* […] *Digital things are never properly yours, not truly yours, not in the same way. There's always some caveats – 'you can do this, but you can't do that.'* […] *I've definitely lowered my expectations for digital. I go into it with my eyes open nowadays. I don't expect everything to be the same, I know there will be some restrictions. I know I won't have the same level of control as I do with other possessions.* (Interview excerpt, Eve)

Thus, reflecting on her experience of possessing digital music, Eve concluded that digital objects were quasi-possessions, never truly possessed due to company-imposed restrictions on consumer-object interactions. These shifting beliefs surrounding possession were restricted to digital objects, however; Eve still perceived significant value in owning and possessing her vinyl records, and comparisons with their digital counterparts led her to express renewed appreciation for these items, which she described as *"truly mine."*

Eve did not attempt to transform the object's affordances, since she was unaware that this was possible. Even when participants did perceive opportunities to transform objects' affordances, they often lacked the necessary dexterity or motivation, or were reluctant to implement such transformations due to issues of cultural and institutional legitimacy (e.g., often companies and/or regulators prohibited the transformation of digital objects). Where consumers were unable to align affordances by transforming the object's affordance, they could only resolve affordance misalignments by adjusting their own imagined affordances, as was the case for Eve. In the above quote, we can see that Eve adjusted her imagined affordances not just for digital music, but for digital objects more widely; she anticipated restrictions on her interactions with these objects rather than the dominion that she had previously expected. Eve's revised imagined affordances had behavioural consequences. In a subsequent interview, she revealed that she had abandoned her iTunes collection in favour of access-based music streaming platform Spotify:

> *I've switched to Spotify instead, where you pay a monthly subscription, and you can listen to anything you like but you don't own anything* […] *I can organise my collection more easily on Spotify than I could on iTunes. So, what's the point of paying to download it? Why should I pay to own it, when I can have pretty much the same experience, if not better, from streaming?* (Interview excerpt, Eve)

Here we see that Eve's revised imagined affordances led her to change her behaviour, moving from solid to liquid consumption (Bardhi and Eckhardt 2017) in the context of her digital music. Eve had no concerns about abandoning her iTunes music, since although she had invested some money in purchasing these digital files, she had invested little time and effort in appropriating them and had not developed the emotional attachment that could present an obstacle to abandonment. Furthermore, she saw no benefit to her iTunes music that was not delivered by the alternative that she had identified (Spotify) and thus continued use was deemed unnecessary.

For Eve, the behavioural implications of this affordance misalignment were not limited to digital music; Eve later began purchasing audiobooks via Apple's iBooks mobile application, and described forming a deliberately detached relationship with these items:

> *I don't see them as a collection. I knew from the outset that it was just a functional relationship. With my iTunes music I started out trying to create this super personalised collection, the digital version, the digital equivalent, of my records. But with the audiobooks I'd learnt from experience, so I was more realistic. I could see the value in having this whole library in my pocket, I could see the convenience, but I wasn't trying to emulate my* [physical] *book collection. I just listen to them and that's it, I'm not trying to organise them or display them or anything.* (Interview excerpt, Eve)

Here we see evidence of the liquid consumer-object relationships described by Bardhi et al. (2012), characterised by emotional detachment, emerging in the context of other digital objects, demonstrating the far-reaching implications of affordance misalignments. Whilst work on liquid consumption portrays active consumers choosing which consumption mode (liquid or solid) to enact (Bardhi and Eckhardt 2017), we see that Eve turns to liquid consumption after attempting and failing to satisfactorily pursue solid consumption. Thus, we demonstrate that consumers may be unable to successfully actualise their desired consumption mode, despite their best efforts.

Whilst Eve responded to her discomfort surrounding a missing affordance by revising her imagined affordances in relation to her digital music, and other digital objects, other participants instead transforming the object's affordances by intentionally increasing their dexterity with

respect to the digital object and/or by materially transforming the object. Andrew, for instance, after expressing frustration at his Kindle e-reader software's refusal to enable him to share his ebooks, learned how to materially transform his ebooks' affordances by removing their Digital Rights Management (DRM) encryption:

> *I've finally done it. I've worked out how to remove DRM!* […] *I looked up the process online and followed the steps. I downloaded software called Calibre which helps you to strip the DRM.* […] *I feel like a free man!* (Interim anecdote, Andrew)

Here we see how Andrew's increased dexterity with regards to his ebooks, achieved through online research, revealed new opportunities for material transformation that enabled him to circumvent the object's refusal of his desired interaction (sharing). Andrew was able to successfully transform his ebooks because he perceived that this transformation was possible, he was sufficiently motivated to invest time and effort in actualising his imagined affordances, and freely available marketplace resources enabled him to increase his dexterity (online tutorials) and facilitated his desired process of material transformation (DRM-stripping software).

We found that in investing time and effort in learning about and transforming digital objects, consumers achieved not only an increased sense of control over these objects, but also an increased sense of intimate knowledge and self-investment. Thus, beyond resolving missing affordances that present obstacles to appropriation, transforming object affordances emerged as a further possession ritual that facilitated appropriation. In a subsequent interview, Andrew reflected on the impact of this alignment strategy on his experience of possession:

> *I feel like they're more mine now, definitely. I felt uncomfortable before, spending all that money on things that weren't really mine. It didn't sit right with me. Before it felt like… it felt like they should be mine, but the restrictions were an obstacle, they were getting in my way. Now, I can do what I want, I've sent a couple to my girlfriend. She doesn't use Kindle she uses iBooks instead, but she can still access them because I've stripped the DRM. So now the obstacle has gone, I can do what I want with them, so they're really mine now.* (Interview excerpt, Andrew)

Thus, in contrast to Eve, whose revised imagined affordances led her to abandon her digital music and detach from subsequently consumed digital objects, Andrew was able to actualise his initial imagined affordances, enabling possession to take place as anticipated and desired.

Covert Affordances

Covert affordances occur when a consumer anticipates than an object will *refuse* interactions with third parties such as other consumers and corporations, unless they actively permit this interaction (imagined affordance), yet, unbeknownst to them, the object *allows*, *encourages*, *requests* or *demands* interaction from third parties (object affordance). Thus, the affordance is covert – obscured from the consumer until it is acted upon by a third party. Covert affordances were a recurring form of affordance misalignment within our study, since our participants not only associated possession with dominion over an object, but often anticipated that they would have *sole* dominion unless they chose to grant access and control to others. Furthermore, participants often anticipated that corporate involvement would end at the point of acquisition and did not expect companies to have continued agency with respect to their possessions. As in the case of missing affordances, it became apparent that the imagined affordances underpinning covert affordances stemmed from participants' prior experiences of possession, where possessed objects were more easily removed from the market and from the agency of other consumers.

Holly provided an account of a covert affordance in the context of her digital content on social networking website Facebook. Her Facebook profile contained photographs that she had uploaded to the website, as well as photographs that her online connections had uploaded and 'tagged' her in. Holly's sister-in-law had taken photographs of her son, which she had uploaded to the Facebook platform and 'tagged' Holly in, making these photographs part of Holly's own Facebook profile. Holly had anticipated sole, uninterrupted control over her entire Facebook profile, including these tagged photographs:

> *I forgot that they were tagged photos because they're part of my profile. You forget that other people uploaded them, and you just think of them as yours.* […] *I just expected that they'd always be there, because… because that's how things normally work, I guess. I mean, they're on my profile, so they're mine* […] *It feels like no one should be able to take them away from me. Like, if I have photographs in my house of my child, I wouldn't expect a friend to take them away. Even if they'd taken* [a physical photo] *and given it to me, while it was in my house, I'd feel like it was mine, like it was permanent. And if they ever wanted it back, they'd have to ask first, so I'd have the chance to make a copy, it wouldn't just disappear. They wouldn't be able to just take it without asking me* […] *You assume it's the same, you assume once something's on your Facebook profile that it's yours forever, that no-one's going to take it away.* (Interview excerpt, Holly)

Here we gain insight into Holly's imagined affordances; Holly's previous experiences of possessing photographs led her to anticipate sole dominion over the digital photographs on her Facebook profile. She had assumed that these tagged photographs – and the rest of her Facebook profile – would persist *"forever"* as a *"permanent"* possession and would not be deleted or altered without her permission. Such assumptions of sole dominion and continued, uninterrupted access were common and, as in Holly's account, participants often drew comparisons with physical possessions when articulating their imagined affordances.

However, issues arose when objects over which consumers anticipated sole dominion afforded action possibilities to third parties that were not initially perceived by the consumer. For instance, whilst Holly anticipated that she would have permanent, unrestricted access to her Facebook content, interrogation of the Facebook platform revealed that it allowed other users to delete their uploaded content, regardless of whether it also formed part of other users' profiles:

> *Facebook's Terms of Service state that users retain the right to delete their own content from the platform* […] *The Facebook platform does not actively encourage users to delete their content, however users are given the option to both delete content (e.g., when viewing uploaded photos the user has the option to 'delete photo', though this option is hidden within a sub-menu, requiring users to actively search for this affordance) and to deactivate (temporarily remove) or delete their entire Facebook profile (again, Facebook does not actively encourage this, and to do so requires the user to navigate the website's 'settings' page)* (Researcher fieldnotes from interrogation of the Facebook platform)

The existence and implications of such affordances were not always clear to users, however:

> *There is no mention within Facebook's Terms of Service agreement – or elsewhere on the site - of how one user deleting their own uploaded content may impact other users' profiles. There is no explanation of users' rights to the photographs that they are tagged in versus those that they upload themselves, and no warning that tagged photographs may be deleted by the user that uploaded them.* (Researcher fieldnotes from interrogation of the Facebook platform)

Indeed, once a Facebook user has been tagged in a photograph, these photographs appear within the 'photos' section of their Facebook profile, in a subsection titled 'photos of you'. As Holly discusses above, this can create an illusion that these photos are 'mine' as opposed to 'theirs' (the uploader's) as the user may forget their origin and simply view them as part of their own Facebook profile. Here we see how digital objects' design can influence not only their material properties, as recognised by Mardon and Belk (2018), but also the affordances that consumers

anticipate. In this instance, the design of the Facebook platform created an illusion of control over tagged photographs whilst simultaneously affording action possibilities (in this case, allowing deletion) to third parties (other platform users) that were obscured from consumers. Consequently, a misalignment occurs between Holly's expectations surrounding her Facebook profile as a possession, and the affordances she encountered. Whilst Holly did not initially perceive the affordances the object offered to other actors, they could nonetheless be acted upon, destabilising possession. It is not simply the capacity for other actors to remotely act upon digital objects that creates this type of misalignment, but rather the existence of these object affordances *without* consumers' prior knowledge, which renders the affordances 'covert', unperceived by the consumer. Whilst in this instance, it is other consumers who may act upon the object, we also observed instances in which companies granted themselves ongoing agency over digital objects, including the capacity to transform or delete the object. Often these affordances were initially unperceived by the end user, disclosed only in complex legal agreements that our participants did not read, creating covert affordances.

Covert affordances mediated at a pragmatic level by enabling third parties to disrupt the consumer-object relationship. In Holly's case, her sister-in-law acted upon the previously documented object affordance, deleting her Facebook profile and, in doing so, removing several of the tagged photos that made up Holly's own profile. Holly observed:

> *I was really shocked. I suddenly noticed that they'd disappeared! All of these photos of my son had gone. I didn't really think about the fact that someone else could remove them without my permission. I just assumed they would always be there.* (Interview excerpt, Holly)

Thus, Holly's sister-in-law materially transformed Holly's Facebook profile, creating an unexpected disruption to her relationship with this digital possession. Other examples included companies remotely engaging in material transformations (e.g., changing the artwork on the cover of a consumer's ebook) and compositional transformations (e.g., an automatic software update that re-organised a participant's digital music collection), which were similarly met with surprise by consumers. Prior research has acknowledged the capacity for possession to be disrupted by third parties; when we lend our possessions to others they may return them

damaged, or fail to return them at all (Jenkins et al. 2014), whilst our possessions can potentially be stolen from us (Hill 1991). However, consumers are typically aware of these risks and may therefore take measures to prevent these disruptions. In contrast, in the case of covert affordances, these disruptions are unanticipated as consumers are unaware of the capacity for these third parties to act upon their possessions.

Thus, covert affordances often resulted in unanticipated disruptions to the consumer-object relationship. This pragmatic mediation in turn mediated possession at a hermeneutic level. Holly experienced this unexpected disruption as both unexpected and unfair:

> *If they're mine, then she shouldn't be able to take them away without asking first. They shouldn't just disappear with no warning; it doesn't seem fair.* […] *It made me realise I don't really know anything about Facebook's rules, I had no idea that was even possible* […] *It's changed the way I think about my tagged photos. I used to just see them as being the same as the photos I uploaded myself, but now I see them as different. The ones I upload are mine, I have control over them, they're more permanent, but the ones I'm tagged in are someone else's. They're part of my profile, temporarily, but they're not fully mine.* […] *They could disappear at any moment if anyone decides to leave Facebook. So, I feel more… nervous about them. Like I could lose them at any time.* […] *With physical photos they're either yours or they're not, aren't they? They're in your house, in your photo albums, or in frames or whatever, they're not going anywhere. But these* [tagged digital photographs on Facebook] *are like… they're never really safe. They're kind of… fragile.* (Interview excerpt, Holly)

Here we see that the loss of these photographs led Holly to experience a lack of control over her remaining tagged Facebook content, as well as a reduced sense of intimate knowledge of the Facebook platform itself, leading to the conclusion that her Facebook content was *"not fully mine"*. Thus, whilst previous work has indicated that digital objects' ontological instability may be thrilling and desirable (Belk et al. 2020; Zwick and Dholakia 2006), we find that where consumers do not *anticipate* these changes, and instead assume that they have sole dominion over the object, this instability can produce a lessened and conflicted sense of possession. Indeed, Holly experienced her remaining social media content as "*fragile"*, at risk of disappearing at any time as the result of third-party interference.

> *People always say digital is better because you can't lose it. Like with photos, printed photos could be lost or damaged, couldn't they? But this has taught me that digital is risky too, especially when it's stored online.* […] *It's not just Facebook, but what about my Instagram photos too? It makes you wonder, what if Instagram goes down? I mean, do I lose everything? I guess I didn't really think about it before, and now when I do think about it, it makes me anxious!* […] *What can I do about it though? While they're*

> *online they're kind of… beyond my control. Facebook has the final say, they're the only ones that could make changes to stop this happening.* (Interview excerpt, Holly)

Here, we see evidence of further hermeneutic mediation in relation to Holly's wider possession beliefs; Holly came to regard other digital objects, beyond the mediating object itself, as fragile possessions, at risk of loss. Holly initially felt powerless to address this perceived fragility, observing that she had no means to protect these items, which were "*beyond* [her] *control.*" However, Holly later attempted to resolve this affordance misalignment by transforming the object's affordances; she materially transformed her remaining 'tagged photos' into locally stored copies, separate from the Facebook platform, to prevent future losses:

> *Just thought I'd let you know I've started backing up! I've realised how risky it is to rely on Facebook when I've seen that anything could be deleted at any moment* […] *I've downloaded copies of all of the photos that I'm tagged in on Facebook so have my own permanent copies stored on my laptop.* (Interim anecdote, Holly)

In a subsequent interview, Holly revealed that she had continued to materially transform these tagged photographs and had also taken to downloading local copies from other online platforms:

> *My sister-in-law came back to Facebook a few months after I last spoke to you, but now whenever she uploads a photo of the kids and tags me in it, I download my own copy.* […] *Even if she decides to leave* [Facebook] *again, it doesn't matter, because I've got the photos I want on my laptop, or on my phone. I know they're not going anywhere.* […] *I do it with my Instagram photos too. If I edit the photo on Instagram, like adding a filter or something, I download a copy of the final version to my phone, so I've got a copy to keep* […] *It just feels safer. It feels safer to have a copy on my phone, rather than online somewhere where I can't control it.* (Interview excerpt, Holly)

Thus, Holly materially transformed these digital objects in order to achieve the sole dominion that she had originally anticipated, aligning the objects' affordances with her own imagined affordances. Once they had been downloaded and stored as local copies, Holly experienced these digital photographs as more stable and secure possessions, and thus was able to actualise possession as anticipated and desired.

Holly was able to transform the affordances of these digital photographs because she was sufficiently motivated to increase her dexterity relative to these objects by investigating the functions of the Facebook platform, and because Facebook offered a convenient 'download' function that facilitated this transformation. In some cases, however, participants found themselves unable to resolve covert affordances via acts of material transformation. For instance,

David described his frustration at ebook company Kindle updating the covers of his ebooks, but explained that he was unable to find a way to prevent this:

> *How do you stop Kindle from updating the covers? They don't need you to give them access, because they gave themselves remote access to all of your possessions the second you signed up. They're clever bastards. And we're just suckers. Because by the time we realise it's too late.* […] *I still use them all the time, they are handy for when I'm on the way to work or when we're on holiday, that sort of thing. You can't deny they're handy, I can have all of them* [my ebooks] *with me no matter where I am. You can't get that with a normal* [physical] *book* […] *Plus I've already paid for them all, so I might as well get my money's worth, you know?* [laughs] *But it's not like a collection, they're not like my prized possessions you know, they're just a means to an end.* […] *If they disappear, they disappear, there's nothing I can do about it so I might as well just accept it* (Interview excerpt, David)

Thus, David could not perceive a way to transform his ebooks' affordances and instead pursued affordance alignment by revising his imagined affordances, concluding that digital objects were unstable and impermanent. Reluctant to part with his ebooks due to their perceived benefits (convenience and portability) and his own sunk costs (he had purchased a sizable collection of Kindle ebooks), David's revised imagined affordances led him to detach from his ebooks. Rather than approaching his ebooks as a meaningful collection he instead approached them in a detached manner akin to accounts of liquid consumption (Bardhi et al. 2012; Bardhi and Eckhardt 2017).

Deficient Affordances

Deficient affordances occur when the consumer expects the object to actively *request* or *demand* interaction (imagined affordance), yet the object does not do so, instead simply *allowing* consumer-initiated interactions in a more neutral manner (object affordance). In contrast to missing affordances, which occur when an expected interaction is actively refused, deficient affordances occur when objects afford more passively or, to use Davis' (2020) terminology, less forcefully than the consumer anticipated. As a result, the object is perceived by the consumer to afford in a manner that is deficient – lacking the forcefulness they had anticipated. Deficient affordances emerged in our data where consumers expected digital objects to become personally meaningful digital possessions that actively initiated unexpected moments of reflection and reminiscence - an imagined affordance rooted in their previous experiences of possession - but found that the object failed to provoke their attention unbidden.

For instance, Alice provided an account of a deficient affordance in the context of her Kindle ebooks. She had a large collection of physical books displayed on a bookshelf in her home, which reminded her of specific places, people, and experiences. Alice had also, in recent years, purchased numerous digital ebooks and had anticipated that they would become similarly meaningful possessions, prompting moments of reflection just as her physical books did:

> [My physical books] *are always just there. Every time I enter the room I see them, they catch my eye even if I wasn't planning on looking at them, and the next thing I know I've picked one up and I'm flicking through.* […] *I dust the books once a month or so, so I look at them then too, and I might see one I haven't thought about for a while.* […] *And when we moved here* [to this house] *I had to package them all up for the move and then re-arrange them on the bookshelf once we moved in, so you sort of refamiliarise yourself with them then, when you have to move them.* […] *I love the fact that I might walk into my study one day and see a book out of the corner of my eye that reminds me of a holiday, or, like,* [pointing at a physical book on her bookshelf] *that one reminds me of my Mum, you know? I just wish my Kindle books were more like that, that they could do that.* […] *I kind of assumed they'd still be meaningful in the same way, even though they're digital*. (Interview excerpt, Alice)

Here Alice highlights her physical books' affordances; by actively and regularly requesting cleaning, by demanding manual transportation and compositional transformation following a house move, and by simply remaining present in an enduring and visible display, her physical books have the capacity to request attention and interaction in ways that prompt her to reflect on their symbolic meanings. Based upon her experiences of possessing these books, Alice had expected that her ebooks would act in a similar way, and thus become equally meaningful. However, her ebooks exhibited different affordances:

> *Alice's physical book collection remained visible for the duration of the interview, and she often gestured to both the collection as a whole and to specific books to illustrate her point. In contrast, in order to show me her Kindle ebooks, Alice first had to fetch her Kindle e-reader from her bedroom, turn on the device, and wait for the software to load.* […] *Once she had shown me her ebook collection, Alice turned off the device, leaving its screen blank. Once the Kindle device had been turned off, Alice talked about her ebooks in a more generic sense, without referring to and showing me specific examples; they remained dormant and invisible for the majority of our conversation.* (Researcher fieldnotes following interview with Alice)

Thus, Alice's ebooks did not have an enduring presence that enabled them to request attention or interaction, but rather remained invisible and thus passive until Alice actively accessed them. Alice explained that reflecting on her ebooks would therefore need to be an intentional act:

> *They're just not* there *like my other books are, they're like in the depths of my Kindle, hidden away. I'd have to actively open my Kindle app with the intention of browsing my old* [ebooks] *if I wanted to rediscover them, and how often would I do that? Well, so far, the answer's never. I just wouldn't think to do it. I'd never just randomly rediscover them, when I wasn't expecting to, which is a shame because I love that about my* [physical] *books.* […] *Although I know what I've got on my Kindle I don't view it so much as a possession afterwards, once it's been read. It's just kind of… forgotten about. They don't remind you they're there in the same way that* [physical] *books do.* […] *When I've finished a book on the Kindle, it's just archived and discarded, and I doubt that I'd look at it again.* (Interview excerpt, Alice)

Thus, in the context of Alice's ebooks, reflection became an intentional act, initiated by her, rather than by the ebooks themselves, which failed to *"remind* [her] *they're there".* This was a common theme within our dataset: whilst some digital objects had the capacity to actively request or demand interaction in various ways (e.g., push notifications to the consumer's device), most did not. Consequently, we see the occurrence of an affordance misalignment. The affordance was not 'missing', as Alice was able to access and reflect on her ebooks. Rather, the ebooks afforded this interaction in a way that was perceived by Alice as deficient – as insufficiently forceful. This deficient affordance mediated possession at a pragmatic level by reducing the frequency of consumer-object interactions, with Alice's ebooks lying dormant and *"forgotten"* in between uses. Prior research has acknowledged that consumers may intentionally place objects out of sight (e.g., in basements, attics, or garages) to reduce the frequency of consumer-object interactions and allow objects' personal meanings to dissipate, typically to facilitate subsequent divestment (McCracken 1988). However, in these accounts consumers *intentionally* place objects out of sight. In contrast, in cases of deficient affordances digital objects remained out of sight and thus easily forgotten, despite consumers' desire to be actively reminded of their existence and of their associated personal meanings.

This deficient affordance mediated at a hermeneutic level, causing Alice to experience her ebooks as less personally meaningful than their physical counterparts:

> *I'd say my Kindle* [ebooks] *are just functional and convenient, whereas my books are more, like, meaningful.* […] *Some of* [my ebooks] *do have memories attached to them* […] *If I scroll down, I can see some that do trigger some memories, I remember reading this one* [gestures to Kindle e-reader screen] *when* [my daughter] *was little, and I can remember reading sections of it at night while I was feeding her. So that's quite cute, to have that reminder. But it's not the same. It's like,* [the ebook] *can remind me of these*

> *things, but only when I deliberately look for it so that it can remind me. But my* [physical] *books remind me when I'm not expecting it, and that's much more useful to me.* […] *I wish they* [the Kindle ebooks] *had some way of reminding me they were there, because some of them do have those meanings, but they're not very good at reminding me of the meanings, if you see what I mean?* […] *I'd be far more upset if I lost my books than if I lost my ebooks. My books feel really special, they feel irreplaceable. Whereas my ebooks are more functional, they're not special in the same way. They're not as meaningful. In my opinion digital things are never as meaningful because they get forgotten about so easily.* (Interview excerpt, Alice)

Thus, this deficient affordance led Alice to experience her ebooks as less meaningful and more replaceable than her physical books, valued simply for their functionality and convenience. Indeed, this misalignment mediated Alice's wider beliefs surrounding digital objects as possessions; she concluded that they were ineffective placeholders for meaning, and thus adjusted her imagined affordances for ebooks and other, similar digital objects.

Despite these revisions to Alice's imagined affordances, she did not abandon her ebooks, primarily due their perceived convenience over their physical counterparts. Indeed, she continued to purchase ebooks, and later in the study also purchased digital audiobooks. However, she chose to also purchase physical copies of particularly meaningful ebooks and audiobooks.

> *If I really love an audiobook or a Kindle book* [ebook], *sometimes I buy a physical copy off Amazon, just because I want it to be a part of my collection, you know? I guess that's a bit weird. I might never read that copy. But, once it's on the shelf over there, it's mine. It's part of the collection, it's there if I need it and it's that reminder. Like, so, for example, I listened to the audiobook of 'The Girl on The Train' on Audible on the flight to Spain last year, and I finished off listening to it by the pool, and I loved it and it's just a meaningful book for me. But once you finish listening to it, it's just a book in an app on your phone. You never look at it again. So, yeah, I bought* [a physical copy] *from Amazon so that I'd have a copy to help me remember that holiday. And to be fair, when I do see it on the shelf I do remember. And actually, I did pick it up and flick through it just the other day. So, I guess it was worth it!* [laughs]. (Interview excerpt, Alice)

Here we see that Alice responds to her revised imagined affordances by complementing her ebooks and audiobooks with alternative objects (physical books) with affordances that more closely match the initial imagined affordances that she was unable to actualise in the context of these digital objects. This alignment strategy enabled Alice to achieve her desired experience of possession. Interestingly, whilst indexical meanings are often portrayed as the pinnacle form of possession meaning, typically rendering possessions irreplaceable (Grayson and Shulman 2000),

in Alice's account an object that lacked indexical links but can convey its meanings in the desired way (physical book) was perceived as more meaningful than an indexical object that could not (the audiobook indexically linked to the holiday).

Many consumers similarly resolved deficient affordances by complementing them with additional items, which often involved replicating digital objects in a physical form. Natalie, for instance, described a process of printing her photographs from social media platform Instagram onto a mobile phone case for her iPhone, noting that she "*can remember these moments better this way*" since she can *"see them every day."* However, others found ways to transform digital objects' affordances to more closely align with their own imagined affordances, without losing their digital form. For instance, Louise transformed her digital photographs' affordances by creating a slideshow that played on her TV whenever the device was on standby mode (Figure 2), enabling the photos to actively request her attention. Similarly, Becky installed the Timehop mobile application (Figure 3), which collects old photographs and posts from users' mobile phones and social media profiles and sends them as push notifications to users' phones. In doing so, Becky gave her digital photographs the capacity to request her attention, presenting opportunities for serendipitous re-discovery:

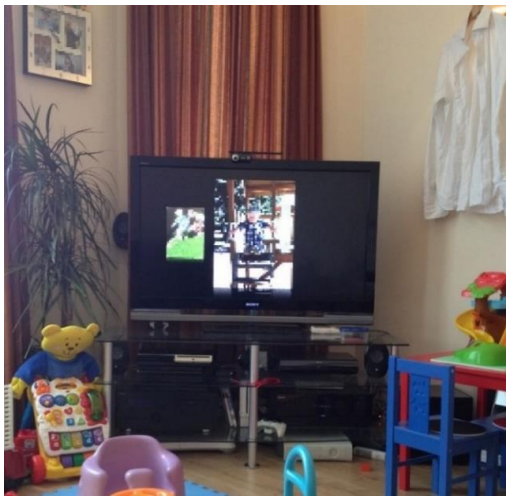


Figure 2 – Louise's photo slideshow

Figure 3 - Becky's Timehop app

> *This photo* [see Figure 3] *came up on Timehop earlier and it's a good example of why I love the app ☺ This was my last day of school. I didn't realise it was 3 years ago but my Timehop reminded me. I took a screenshot and sent it to all my friends and we were all chatting and remembering the day – that wouldn't have happened without Timehop.* (Interim anecdote, Becky)

> *I constantly look at my old photos now, because they pop up all the time on my phone. Most days I wake up to a notification, and it tells me what photos I took or posted this time last year, or 3 years ago, or 5 years ago whatever. I love it, because I would never have gone back through my photos to rediscover them, I would have just forgotten about them. But now I'm looking at my photos more than ever before and remembering all of these great times! I love getting these unexpected memories popping up* […] [My digital photographs] *definitely feel more meaningful now, probably even more than my* [physical] *photos because I'm looking at them more often!* (Interview excerpt, Becky)

Here we see that by transforming her digital photographs' affordances Becky was able to actualise her own imagined affordances relative to these objects, and thus experience them as highly meaningful, as initially expected and desired. It is important to note that Becky and Louise were able to transform their digital photographs' affordances due to marketplace resources (a TV with a slideshow function and a mobile application) that reduced the amount of dexterity required to do so. They did not need to edit digital objects' code but simply located and deployed pre-designed software to facilitate this transformation.

DISCUSSION

Digital Objects & Obstacles to Possession

We set out to understand how digital objects present obstacles to possession, and to explore the ways in which consumers attempt to overcome these obstacles. Our findings challenge arguments that digital possessions are inherently less meaningful than physical possessions (Atasoy and Morewedge 2018; Petrelli and Whittaker 2010; Siddiqui and Turley 2006). We demonstrate that digital objects do not have innate qualities that make them less meaningful possessions, but rather their affordances may not match consumers' imagined affordances, creating affordance misalignments. Although affordance misalignments are not unique to digital objects and may also occur in the context of physical objects, we argue that they are particularly prominent in the context of digital objects because consumers' imagined affordances are often informed by their past experiences of physical possessions, as well as wider cultural norms surrounding possession that are themselves grounded in a long history of physical possessions. These affordance misalignments present obstacles to consumers' anticipated interactions with digital objects, and thus to consumers' desired experiences of possession. We have shown that

affordance misalignments can create barriers to possession rituals (missing affordances), by leaving our relationships with digital possessions vulnerable to unanticipated disruptions (covert affordances), and by rendering digital objects unable to effectively communicate their symbolic meanings (deficient affordances). In doing so, they can inhibit the development of proprietary feelings that are foundational to possession, lead consumers to experience digital objects as precarious and unstable possessions, and reduce digital possessions' perceived meaningfulness. Thus, our analysis sheds light on how and why digital objects present obstacles to possession.

In doing so, our work accounts for the varied and contradictory accounts of digital possessions in extant literature. Whilst prior work has attributed contradictory accounts of digital possessions to digital objects' varying characteristics (Mardon and Belk 2018), we identify additional factors that contribute to these divergent experiences of possession. As consumers hold different imagined affordances based upon their varied previous experiences of possession, as well as divergent levels of dexterity with respect to various digital objects, they will therefore encounter different affordance alignments, even with respect to the same digital object. A digital object that presents a frustrating affordance misalignment for one consumer may present no obstacles to another, producing highly divergent experiences of possession. Thus, it is not necessarily the case that some digital objects have properties that make them more or less suited to possession – though these properties will play a role in shaping the object's affordances – but rather that consumer-object pairings that produce affordance misalignments are more likely to present obstacles to possession.

Our analysis also highlights the role that market actors may play in creating affordance misalignments in possession. Whilst prior work has acknowledged that companies play an important role in the possession of digital objects (Mardon and Belk 2018; Molesworth et al. 2016; Morewedge et al. 2021; Watkins et al. 2016), this work remains at a conceptual level. We extend these conversations by empirically exploring the ways in which market actors can influence how consumers interact with, experience, and make sense of their digital possessions. Specifically, we provide empirical illustrations of the capacity for the 'fragmented' or

'fractional' ownership configurations discussed in extant literature (Morewedge et al. 2021; Watkins et al. 2016) to mediate possession, contributing to the occurrence of missing affordances and covert affordances. Indeed, we demonstrate that companies contribute to affordance alignment not only via the design of digital objects' properties, which influence their affordances, but also through their various communications with consumers, which can influence both the object's affordances (by influencing perception) and consumers' imagined affordances with respect to the object. For instance, we observed that often the action possibilities afforded to third parties were obscured from the consumer, resulting in covert affordances. Similarly, when companies invite consumers to 'buy' digital products they can activate imagined affordances premised on previous experiences of bought objects that cannot be actualised due to fragmented ownership configurations, thus creating missing affordances.

Although affordance misalignments can create obstacles to possession in the context of digital objects, we have shown that these obstacles can be overcome. We have shown that consumers may seek to resolve affordance misalignments by transforming an object's affordances. This may involve increasing their dexterity with regards to the object and/or acts of material transformation that alter the object's properties. Thus, whilst Mardon and Belk (2018) have acknowledged that companies may materially configure digital objects' properties, we have shown that consumers may also alter their properties, particularly where market resources are available that reduce the dexterity required for consumers to achieve their desired material transformations. Our findings indicate that there is a desire, at least amongst some consumers, to achieve meaningful relationships with digital possessions. Indeed, we have shown that consumers may be willing to invest significant time and effort in pursuing their desired experiences of possession. However, many participants were unable to successfully transform objects' affordances and therefore adopted an alternative alignment strategy – revising their own imagined affordances with respect to the object. Their revised imagined affordances often led consumers to abandon or detach from digital objects, or to complement their use with other items that better matched their initial imagined affordances. This finding sheds new light on the

prevalence of digital objects in accounts of liquid consumption (Bardhi and Eckhardt 2017). Whilst scholars have argued that digital objects' intangibility makes them highly suited to liquid relationships (Bardhi et al. 2012; Bardhi and Eckhardt 2017), we show that detached relationships to digital objects may not always be consumers' first choice but may follow failed attempts to successfully actualise the meaningful and stable forms of possession valued in solid consumption due to affordance misalignments.

Furthermore, we have shown that consumers may generalise experiences of affordance misalignments encountered in the context of digital objects, concluding for example that digital objects as a category are less meaningful than physical objects and adjusting their consumption behaviours accordingly. Here we see the capacity for negative experiences with a specific digital object to have far-reaching consequences, mediating consumers' beliefs surrounding digital objects more broadly, and thus influencing how they interact with and experience other digital objects. In particular, we have shown that affordance misalignments experienced in relation to a digital object may lead consumers to detach from subsequently consumed digital objects. In such instances, adopting a liquid consumption orientation enables consumers to avoid the frustrating affordance misalignments that they have come to anticipate in the context of digital objects, based on previous experiences. Our findings therefore suggest that consumers may be more likely to adopt a liquid consumption orientation in relation to digital objects due to the prevalence of affordance misalignments in this object category.

We have also shown that consumers' experiences of their digital possessions can mediate their relationships with their physical possessions, with undesirable instances of affordance misalignment in the context of digital objects resulting in increased appreciation for the affordances of their physical counterparts. These findings provide new insight into growing nostalgia for analogue media such as vinyl records (Humayan and Belk 2020), which may be attributed in part to consumers' experiences of affordance misalignments with their digital counterparts, which may result in a longing for the object affordances they had come to expect in possession, and which these physical objects deliver. Thus, we demonstrate that consumers'

experiences of digital objects as possessions have more far-reaching consequences than previously recognised.

How Affordance Alignment Mediates Possession

Beyond the context of digital objects, we extend wider theories of possession by presenting affordance alignment as a lens through which to understand how objects mediate possession. Rather than focusing on objects' objective properties, characteristics, or features, as in prior consumer research (Gruen 2017; Mardon and Belk 2018; Scaraboto 2016), we demonstrate that it is the *alignment* between objects' affordances relative to the consumer and consumers' imagined affordances relative to the object that mediates possession. Indeed, through an affordance theory lens, many object characteristics identified in prior research, such as malleability (Türe and Ger 2016) and instability (Zwick and Dholakia 2006), are not the objective characteristics of an object in isolation, but an experiential outcome of affordance alignment. Though objects do have objective material properties, consumers' experiences of these objects emerge from the alignment of the object's affordances (which are dependent on the relation of the object's objective material properties to consumers as socially situated subjects) with the consumer's own imagined affordances relative to the object. For instance, a consumer whose imagined affordances surrounding the material transformation of an object align neatly with the object's affordances may be able to transform the object as desired, and is therefore likely to experience it as malleable. However, a consumer with different imagined affordances may encounter missing affordances that constrain their agency in desired processes of material transformation, producing an experience of the object as unmalleable. Similarly, whilst Baxter et al. (2015) identify specific object affordances that may produce feelings of psychological ownership, the way in which each of these affordances will mediate possession will be dependent on each consumer's imagined affordances, which will impact affordance alignment.

In applying an affordance theory lens, complemented by postphenomenological perspectives, we capture more fully the extent of pragmatic mediation in possession, demonstrating the capacity for affordance misalignments to mediate possession on interrelated

pragmatic and hermeneutic levels. We provide new insights into pragmatic object in possession by observing previously unrecognised ways in which affordance alignment mediates possession rituals. Prior research has acknowledged objects' capacity to allow or encourage possession rituals (Baxter et al. 2015; Mardon and Belk 2018; Kirk and Swain 2018; Scaraboto et al. 2016) but does not empirically examine the types of interactions that objects *do not* allow. We have shown that missing affordances mediate at a pragmatic level by restricting consumers' agency in rituals of material transformation, compositional transformation, and biographical transition. Beyond mediating possession rituals, we have also shown that objects can mediate at a pragmatic level by rendering possession susceptible to unanticipated disruptions by third parties.

Our research also demonstrates that attention to affordance alignment can extend our understanding of how objects communicate their symbolic meanings. Prior research has largely attributed both the affixture and release of possessions' symbolic meanings to consumers' ritualistic actions (Belk et al. 1989; Fernandez and Lastovicka 2011; Grayson and Shulman 2000; McCracken 1986; Türe and Ger 2016), devoting less attention to the capacity for objects' characteristics or affordances to influence these processes. Scholars have acknowledged that tangible and durable objects may serve as reliable anchors that substantiate and preserve otherwise ephemeral meanings over time (Csikszentmihalyi and Rochberg-Halton 1981; McCracken 1988), whilst Mardon and Belk (2018) have argued that companies can use design techniques to enable digital objects to develop indexical meanings. However, whilst there has been some indication that objects' material qualities can impact their ability to develop and hold symbolic meanings, research has largely overlooked the role that objects' characteristics or affordances play in the *communication* of symbolic meanings. We address this limitation by demonstrating that objects play an important role in conveying symbolic meanings and do so in different ways and to different degrees depending on their affordances. Whilst many of our participants expected possessed objects to regularly and unexpectedly request attention and interaction, prompting them to reflect on their symbolic meanings, we found that digital objects may fail to do so, instead allowing interaction in a more passive and neutral manner that required

consumers to initiate moments of interaction and reflection. This affordance misalignment led consumers to experience these objects as less meaningful than other possessions, and to deem them inefficient meaning receptacles. Hence the 'meaningfulness' of possessions relates not just to their capacity to develop and hold symbolic meanings, but also their capacity to convey these meanings effectively to the consumer. From this perspective, we might argue that the highly meaningful possessions documented in extant literature are successful in communicating their intended meanings because of their affordances. For example, objects that require regular cleaning or maintenance, such as the plastic shoes in Scaraboto et al.'s (2016) study, provide frequent opportunities for objects to communicate their symbolic meanings to consumers, thus enhancing their perceived meaningfulness. Furthermore, we see how consumers in prior studies often enable objects to request their attention by displaying them prominently in an eye-catching manner (Belk 1995; Belk et al. 1989; Miller 2008; Scaraboto et al. 2016), thus influencing these objects' affordances via acts of compositional transformation.

We have demonstrated that the pragmatic mediation of consumer-object interactions in possession in turn mediates at a hermeneutic level, influencing whether and how the mediating object is experienced by consumers as a possession. Previous research has considered how object affordances may enable consumers to appropriate objects as possessions (Baxter and Aurisicchio 2018; Gruen 2017). Conversely, we show that affordance misalignments can create barriers to the routes to possession identified by Belk (1988) – control, intimate knowledge, and self-investment – thus reducing consumers' experience of proprietary feelings towards the mediating object. However, we also acknowledge that possession is not as simple as 'mine' or 'not mine,' providing insight into the complex and conflicted experiences of possession produced by affordance misalignments. Consumer research acknowledges that possession is not always a straightforward and unproblematic relationship between consumer and object, attributing conflicted instances of possession to failed appropriation (McCracken 1986), competing objects and/or space constraints (Epp and Price 2010), and conflict between an object's symbolic meanings and consumers' wider identity projects (Kleine et al. 1995; Türe and Ger 2016).

Extending this work, we demonstrate that conflicted possession experiences may also stem from affordance misalignments. Missing and covert affordances can produce an ambiguous experience of quasi-possession, whereby objects are simultaneously 'mine' and 'not mine', whilst deficient affordances can produce conflicted possession experiences whereby objects are simultaneously meaningful, yet not meaningful (due to their limited capacity to convey their symbolic meanings).

We also extend research that examines consumers' attempts to resolve conflicted instances of possession. Prior research has observed the use of liminal storage spaces (Epp and Price 2010; Lastovicka and Fernandez 2005), material or compositional transformations (Türe and Ger 2016), and divestment rituals (Lastovicka and Fernandez 2005) to resolve such tensions. We found that consumers attempted to resolve affordance misalignments via two distinct alignment strategies – transforming objects' affordances and revising their own imagined affordances. Consumers transformed digital objects' affordances in two ways, which were often used in conjunction; by increasing their own dexterity with regard to the object and by materially transforming the properties of the object itself. The first approach draws parallels with the coping strategy of 'mastering' identified in Mick and Fournier's (1998) work on the coping strategies used by consumers in response to the paradoxes presented by technological possessions, whereby consumers learn about the object through direct interaction and the consultation of instruction manuals. Mick and Fournier (1998, 138) proposed that mastering strategies were used to *"reduce the probability of chaos, dependency, obsolescence, and incompetence",* however our research shows that they may also be motivated by a desire to resolve uncomfortable affordance misalignments, and thus achieve desired experiences of possession. The second approach to transforming object affordances – materially transforming the object - draws parallels with Türe and Ger's (2016) work on heirloom rejuvenation. However, whilst they observed consumers' attempts to align objects' appearance with their own identity projects and their home's aesthetic, we document acts of material transformation that attempt to align an object's affordances more closely with consumers' own imagined affordances. Just as Türe and

Ger (2016) note that material transformations may require certain crafting skills, we observed that many consumers lacked the dexterity necessary to transform digital objects' affordances. Indeed, we build on this work by identifying a range of interrelated factors, beyond dexterity, that influence whether consumers are able to transform objects' affordances. Specifically, we argue that consumers' perceptions, their motivation to actualise their initial imagined affordances, the object's material properties, marketplace resources, and wider issues of cultural and institutional legitimacy may influence the alignment strategy that consumers adopt. We demonstrate that when these factors do not support the transformation of object affordances, consumers must adopt an alternative alignment strategy to resolve the affordance misalignment.

In such instances, consumers typically resolved the tensions surrounding affordance misalignments by revising their own imagined affordances relative to the object. Thus, consistent with wider work on product experiences and consumer learning (Hoch and Deighton 1989), we find that consumers may learn from their experiences of affordance misalignments, adjusting their expectations accordingly. We have shown that revising imagined affordances can impact consumers' future object interactions in varying ways. For instance, we have observed that consumers may abandon digital objects after concluding that they will not enable them to achieve their desired experience of possession. Here we see further parallels with Mick and Fournier's (1998) coping strategies, which include the 'abandonment' of objects that produce problematic experiences. However, we found that in addition to abandoning digital objects entirely, consumers who were reluctant to part with their digital possessions, due to factors such as object attachment and sunk costs, retained them but complemented them with alternative, often physical, objects that better matched the initial imagined affordances that they had been unable to actualise in relation to the digital object. Additionally, whilst Mick and Fournier (1988, 133) discuss the coping strategies of neglect (showing indifference) and distancing (limiting use and/or placing digital objects out of sight), a key response observed in our study was detachment, whereby consumers continue to use an item but avoid becoming emotionally attached to it, adopting a liquid consumption orientation (Bardhi and Eckhardt 2017). Whereas abandonment,

neglect, and distancing (Mick and Fournier 1998) refer to shifts in use, detachment instead involves a shift in the emotional attachments consumers form with the objects they use. Thus, whilst shifts in consumers' imagined affordances prompted behaviours that drew parallels with the consumption avoidance strategies discussed by Mick and Fournier (1998), we also identify new behavioural outcomes prompted by these shifts.

Our findings also provide new insights into accounts of consumers' changing perceptions and behaviours surrounding possession. Recent research has observed profound shifts in consumption behaviours, most notably the emergence of liquid consumption as a departure from solid consumption (Bardhi and Eckhardt 2012; Bardhi and Eckhardt 2017). This work portrays active consumers choosing which consumption mode (liquid or solid) to enact in a given situation, based on their own circumstances (e.g., their identity, social relationships, professional and economic precarity, intelligence and social trust). However, we have shown that liquid consumption behaviours may result from failed attempts to satisfactorily enact solid consumption due to affordance misalignments, and from attempts by consumers to protect themselves from the disappointment and frustration of anticipated affordance misalignments. Furthermore, we show that objects have the capacity to not only mediate their own consumption, but also to mediate consumers' wider beliefs surrounding possession in a way that may alter their future consumption behaviours. We therefore provide a new lens through which to extend our understanding of these shifting modes of consumption, complementing prior accounts of macro-level societal shifts with insights into the micro-level mediations that underpin consumers' changing beliefs and expectations surrounding possession, and resultant shifts in their consumption behaviours.

Future Research Directions

As previously discussed, our analysis advances consumer research's prior application of affordance theory (Borghini et al. 2021; Hoelscher and Chatzadikis 2020; Kozinets et al. 2021). Our enriched affordance theory lens has the capacity to shed light on the consumption of a wide variety of objects, both digital and non-digital. For instance, it may provide new insights into

consumers' relationships with the digital platforms that are playing an increasingly significant role in our lives. Most online platforms periodically update their features, interfaces, and algorithms; however, these updates may create new affordance misalignments as users' expectations surrounding platform affordances are no longer met. For instance, in 2022 social media platform Instagram changed its algorithm to more closely mirror that of its rival TikTok (New York Times 2022). This update created an affordance misalignment, as users struggled to access desired content and social media influencers struggled to achieve the reach, engagement, and income that they had come to expect from the platform. The resultant user backlash led Instagram to reverse its changes to the algorithm. Here we see an additional route to transforming an object's affordances, beyond those documented in our study; the platform users' collective voice-based power (Kozinets et al. 2021) enabled them to pressure Instagram's management team into transforming the object's affordances to match their established imagined affordances. This incident highlights the need for digital platforms' management teams to anticipate the potential for such updates to create affordance misalignments, and to assist users in coming to terms with them. Future research can shed light on how companies can do this effectively, and explore the risks of creating and failing to successfully manage such affordance misalignments.

Our theoretical lens can also provide new insights into the consumption of smart objects. Whilst some smart objects lack a direct analogue predecessor (e.g., virtual assistants such as the Amazon Echo and Google Home), others involve the integration of software and network connectivity into established categories of physical object, such as cars, refrigerators, and watches. These innovations can produce object affordances that misalign with the affordances consumers had come to expect from their analogue predecessors. For instance, BMW controversially charged UK consumers monthly fees to access some of their cars' functions (e.g., £10 per month to access the heated steering wheel and £15 per month to activate the heated seats) (BBC 2022). Here we see that smart connectivity enables companies to remotely manipulate the affordances that physical objects offer consumers, something that is unlikely to align with many consumers' established imagined affordances surrounding objects like cars. Applying our

enriched affordance theory lens to future empirical work on smart objects can enable researchers to move beyond broad notions of enabling and constraining (Hoffman and Novak 2018; Novak and Hoffman 2019) to explore a fuller spectrum of affordance mechanisms, and account for variations in how consumers adopt, interact with and experience these technologies (as a result of their differing and evolving imagined affordances). Furthermore, prior research does not consider how the consumption of smart objects may mediate consumers' wider beliefs surrounding smart objects as a category, nor surrounding broader concepts such as possession, ownership, privacy, and trust, though scholars have called for research on such topics (Novak and Hoffman 2019; Puntoni et al. 2020). Applying our proposed lens to the consumption of smart objects would enable researchers to document the wider hermeneutic mediations that result from affordance alignment and misalignment, and to explore implications for consumer behaviours within this market.

As previously noted, affordance misalignments are not unique to digital objects. Indeed, our lens can be used to understand consumers' evolving relationships with all sorts of non-digital, non-smart objects, from adoption and appropriation to disposal. For instance, exploring affordance alignment (or misalignment) may shed new light on processes of product adoption and their implications for wider consumption practices and behaviours. For instance, the design and marketing of a new kitchen appliance may contribute to the formation of imagined affordances that may or may not align with the affordances the appliance actually offers a consumer, since these affordances will vary based on consumers' dexterity. Affordance misalignments are likely to generate disappointment, as consumers' expectations are left unmet, potentially leading to failed adoption. However, such misalignments could also motivate the consumer to pursue affordance alignment by increasing their dexterity, potentially transforming their wider cooking practices and shaping their beliefs surrounding their own capacity to cook and to adopt new technologies. Such shifts in a consumer's knowledge, skills, and beliefs may have important implications for their future consumption behaviours. Thus, an affordance lens

can aid researchers in understanding not only when and why affordance misalignments occur in the context of physical objects, but also how they may shape consumption behaviours.

Future research might also explore variations across consumer groups. We have argued that affordance misalignments are particularly prevalent for digital objects because consumers' imagined affordances are informed by their past experiences of physical objects. This raises questions surrounding younger generations of consumers, so-called 'digital natives', who consume digital media from the outset and therefore may not have prior experiences with digital objects' direct physical counterparts with which to draw comparisons. These individuals may experience less affordance misalignments surrounding their digital possessions. Indeed, they may develop imagined affordances based on their consumption of digital objects that inform their subsequent consumption of physical items, potentially creating affordance misalignments that render physical possessions problematic or undesirable. However, whilst these individuals may not consume direct analogue equivalents of digital objects that enable direct comparison (e.g., ebook vs physical book), they will nonetheless continue to have physical possessions (e.g., clothes, furniture) that will inform their consumption of digital objects. Furthermore, their imagined affordances may be informed by sources beyond their own direct experiences; they may observe parents flicking through tangible photo albums or view depictions of vinyl records in films. Future research should explore whether and how younger generations' imagined affordances differ from those of preceding generations, and how differing imagined affordances may impact their experiences of both digital and non-digital objects as possessions.

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