

# Contiguous identities: The virtual self in the supposed Metaverse

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## Abstract

In October 2021, Facebook, Inc. changed its name to “Meta Platforms, Inc.” A key part of this rebranding involved Facebook’s long-term focus on virtual reality (VR) and the future of the supposed Metaverse. Significantly, as of November 2021, users have only been able to access the VR space of Meta if they sign in through their social networking account. While Facebook has suggested it will change this in the future, the specifics of this future have yet to be explained. The purpose of this article, therefore, is to explore the implications of identity within VR if identity within this space is tethered to a corresponding social networking account. Here we suggest the virtual self currently being forged in Meta forms a connective tissue between (1) early accounts of online communication enabling the body to be left behind and (2) more embodied approaches to identity in the context of digitality. We then argue that the virtual self is not a singular entity *per se* but forms a contiguous connection between the lived experience of VR and data gathered through social media about the identity associated with said experience. Finally, we argue conceptualizations of identity in VR (and Meta’s role in identity) will only become more pressing as Meta attempts to build its supposed “Metaverse” in the coming years.

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## Introduction

Virtual reality (VR) is currently going through an important renaissance (Evans, 2018). A range of industries, such as education, healthcare, and real estate are beginning to utilise this technology in their daily practices (Parker and Saker, 2020). Advancements in VR follow substantial investment from a range of companies, alongside sizable acquisitions, including most notably Facebook’s purchase of Oculus in 2014. Following that acquisition, Facebook released a range of wired headsets under the Oculus label (*e.g.*, the Rift and Rift S) as well as wireless headsets (*e.g.*, the Go, Quest, and Quest 2), while spending much of the late 2010s signalling its mounting belief in the future of VR.

Facebook's focus on VR has also been reflected in its labour allocation. By 2020, roughly a fifth of its employees were working on VR-related projects (Byford, 2021). In October 2021, Facebook announced a major shift in the future of the company: a full rebranding of the corporation built around the potential of VR. That rebranding involved the creation of "Meta Platforms, Inc.", which is now the umbrella company under which Facebook and its other brands are located (like Google's creation of Alphabet). As Facebook made clear in the announcement, the future of Meta is inextricably tied to VR.

Of course, the timing of this rebranding is likely about far more than just Zuckerberg's belief and investment in the future of VR. The rebranding arrived after a series of negative news stories that ranged from whistle-blower accounts that Instagram knowingly uses harmful algorithms to investigations of how groups that led the 6 January Capitol insurrection used Facebook to organize (Romo, 2021; Timberg, *et al.*, 2021). Consequently, and as many sources pointed out, the Meta announcement seemed intentionally (and cynically) timed to change the media narrative. Despite the likely cynicism of the timing of the announcement, however, the Meta rebranding made clear that Zuckerberg believes VR will be a major aspect of emerging digital communication.

The "Welcome to Meta" page, for instance, positions VR as the future of everything from exercise to office work to social media. In addition, Zuckerberg proclaimed that the company would spend \$US10 billion in 2021 on developing the supposed "Metaverse" and hire thousands of employees to work on the project. Even with that investment, however, it is still far too early to know how much of the Metaverse is marketing hype and how much will ever become a reality (albeit a virtual reality). Yet, this major rebranding is consistent with Facebook's attempts over the last half decade to become the dominant player in VR space, a future that only seems more likely now that Zuckerberg has doubled down on this technology being the next big step in social media.

The possibility of Meta dominating the future of VR raises some obvious concerns based upon Facebook's rather troubled history with everything from arbitrary censorship to harmful algorithms to abuses of user data to inability to deal with disinformation (Gillespie, 2018; Vaidhyanathan, 2018). And as we argue in this article, Meta's probable dominance of VR will potentially have broad implications for how identity is constructed and managed in virtual spaces. After all, when Facebook released the Quest 2 headset, it required users to login through their Facebook account, partly linking their identities to their Facebook identities that already required people to use their "real" names, which in itself was controversial (boyd, 2012) — to the identities they would construct in VR. While Zuckerberg did subsequently announce that they would roll back that policy at some undetermined point in 2022, the future remains uncertain, with the possibility that someday soon the company could require a "Meta" account that links all profiles under its umbrella (Orland, 2021).

As we demonstrate, the long history of VR hype has often been about separation, about a cleaving of one's identity in the physical world from the identity in the virtual world. While that hype was always overstated (one cannot leave one's body behind), the growth of Meta raises major issues for the construction of virtual identity in part, we argue, because the company uses experiences in virtual spaces to collect data on one's physical self and physical surroundings. This gathering of data continues regardless of whether Quest 2 users are required to sign in through their Facebook account — and even if they are not, it is still plausible that Meta could make connections between respective social media and VR accounts to identify users.

Moving forward, then, the main argument of this article is that Meta's growing dominance of VR blurs lines between physical and digital identities in novel and potentially concerning ways. We show how, even before the Meta announcement, Facebook had begun taking steps to link physical identities (and data) with VR. Consequently, we argue that the kind of identity being forged in Facebook's (now Meta's) vision of VR forms a connective tissue between both disembodied and embodied understandings of digital media, spanning from the early days of the Internet to now. As such, we show how the embodiment of VR through Facebook's Oculus platform (and likely its future Metaverse) blurs lines between the physical and digital in novel ways that fit within Facebook's broader focus on various types of data collection. We then argue the virtual self that emerges in this space is not a singular entity *per se* but forms a contiguous connection

between the lived experience of VR and data gathered through social media about the identity associated with said experience.

Ultimately, this article focuses on conceptualizing both how identity is constructed in newer forms of VR and how the possibilities of identity construction could be limited by Meta's dominance of VR as a media form. To make our case, we begin by examining research on identity, with a focus on how identity has been conceptualised as both disembodied and embodied as it pertains to digital media. We then transition to an analysis of identity construction in VR environments that also examines how VR identities produce data that can be used to capture information about users' physical settings. To account for these implications, we introduce the concept of contiguous identities. Finally, we conclude by returning to Meta and arguing that the possibilities of identity in VR could be limited in the supposed Metaverse, while simultaneously becoming an important piece of the already extensive data the company continues to collect about its users.

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## Digital media and disembodied identities

Identity is a complex issue that encompasses a long, rich, and varied history (Giddens, 1991). Identity might be discussed in the philosophical context of similarities and differences, just as it might be used to convey various labels employed to identify a person (Childs, 2011). For Manders-Huit (2010), identity is both (1) self-informative and (2) nominal. Regarding the latter, nominal identity involves the various attributes given to a person in society that are outwardly fixed and allow individuals to be identified, such one's height, weight, or hair colour, for instance. As Schultze (2014) puts it, "[our] bodies are key to our identities ... [they] carry important identity markers" [1]. In other words, facets of the flesh are intrinsically linked to one's physical frame (McLeod and Leshad, 2011). Accordingly, an individual's soma plays "an important role in making identity real, perceptible and intelligible. By giving the self bodily form, individuals are made present and separate from others" [2]. Nevertheless, the lived experience of identity, of course, quite clearly extends beyond one's physicality and can be more self-informative in nature.

In contrast to nominal identity, then, self-informative identity implicates "the collection of a person's self-conceptualisation and attribution of meanings to their self, usually with respect to a certain role or social milieu" [3]. From this vantage-point, the individual develops a reflexive understanding of herself based on her internally observed wants and wishes, alongside her social interactions with others. Put differently, "[the] overall self is organised into multiple parts (identities), each of which is tied to aspects of the social structure" [4]. Identity, from this position, is not something that should be considered static — far from it — but rather fluid and subject to change (Giddens, 1999). Consequently, people inhabit numerous personas in their daily lives, just as they adopt diverse identities depending upon their surroundings and context. And "these multiple identities do not exist as discrete parts of a person. They must be balanced and synthesised to form a person's sense of self" [5]. To this end, individuals routinely imitate or differentiate themselves from the groups they are associated with, depending on the setting. Take the example of a Londoner who has lived in America for a long time. On the one hand, she is a Londoner. On the other hand, she is an American, and she might choose to identity as either an American or a Londoner depending on the situation in which she finds herself.

The social context, then, as evidenced above, is effectively a stage upon which various performances are played out. Developing this dramaturgical analogy further, Goffman (1959) argues that individuals construct identity as performances designed to create impressions for those who are witnessing the spectacle. The dramaturgical nature of this context is explicitly revealed through expressions such as "losing face," "maintaining face," "saving face," "creating a scene," and so on (Goffman, 1959). Importantly, these performances do not simply remain "frontstage" but can trickle down, "backstage". That is to say, the significance of these performances has the potential to become woven into a performers' reflexive understanding of themselves. As Goffman (1959) puts it:

In so far as this mask represent the conception, we have formed of ourselves — the role we are striving to live up to — this mask is our truer self, the self we would like to be. In the end, our conception of our roles becomes second nature and an integral part of our personality. [6]

While Goffman's concept of identity has frequently been used to understand digital media, he wrote long before the advent of the Internet. In fact, outside of a few mentions of the telephone, Goffman barely engaged with media that effectively enabled users to extend aspects of themselves beyond their physical position. As a result, Goffman's idea of performance revolves around individuals inhabiting environments where the nominal and self-informative aspects of their identity necessarily collide. Importantly, of course, the advent and advancement of digital technologies complicates this relationship precisely because "[the] Internet provides people with the unique capability to separate aspects of their identities and to choose which aspects to present to whom" [7].

Following in this vein, early theorisations of the internet frequently involved conceptualising identity as something disembodied, captured well in what Baym (2015) calls the "myth of cyberspace" [8]. As McLeod and Leshad (2011) put it, "the affordances of mediated communication enable individuals to be strategic about what they choose to present about themselves, as compared to offline interactions in which many self-presentation processes are more unintentional and unconscious" [9]. And this capability has been readily observed in foundational research on MUDs (multiplayer real-time virtual worlds that are commonly text-based) (see Turkle, 1995), where [the] ease of creating and modifying virtual identities encourages players to think of themselves as "fluid, emergent, decentralized, multiplicitous, flexible and ever in process" [10]. At the same time, this Cartesian mind/body dualism is not exclusive to textual virtual environments but can also involve visual depictions of space and place such as online virtual worlds used for social networking (Peachey and Childs, 2011).

Virtual worlds can be described as three-dimensional (3D) immersive online environments that allow people to communicate and do physical-world-like activities (e.g., eating, working, planting) (Stendal, *et al.*, 2011). A prime example of a prevalent online virtual world still inhabited today is *Second Life*. Since the early 2000s, *Second Life* has been the subject of extensive research (Malaby, 2009; Percival; 2008; White, 2008). Surrounding studies have grappled with a range of issues, including education (Baker, *et al.*, 2009), the development of virtual campuses (De Lucia, *et al.*, 2009), anthropology (Boellstrof, 2015), communications (Greiner, 2014) and clinical psychology (Gorina, *et al.*, 2008), to name but a few. Importantly for the direction of this article, *Second Life* explicitly provides users with "unlimited freedom to create avatars and engage in various social interactions" [11]. As a result, these "[virtual] worlds have become personal and social spaces into which players project their intentions, expressions and movements" [12]. It is precisely this opportunity to explore identity in novel ways that seemingly surpass the physical body that have made virtual worlds such compelling sites of scholarly interest.

Nonetheless, in recent years, the underpinning idea that physical bodies can be separated from virtual representations has been widely criticized (Frith, 2015; Hayles, 1999). The initial promise of online communication — especially in the mid-1990s (Negroponte, 1995) — was the possibility for people to escape the nominal aspects of the flesh (Cover, 2015) and in doing so become someone other than the version of themselves indicated by their flesh. Illuminatingly, this process of "[experimenting] with experiencing ... a ... different age, race or gender" is an activity known as "identity tourism" [13] or "avibending" [14]. And while avatars might resemble animals and other non-human objects for the most part, users routinely create characters that adhere to conventional understandings of beauty (Davis and Chansiri, 2019). Yet, by effectively permitting people to step outside of their corporeality (Schultze, 2014), these virtual worlds — on the surface at least — effectively permit users to inhabit a self that might feel more aligned with the identity they understand themselves to be. The importance of these virtual spaces should, therefore, not be underestimated, nor should the relationship users forge with their avatars be misunderstood. For many users, avatars are not simply inhabited, but more importantly, embodied.

In the next section, then, we consider how traditional comprehensions of disembodied identities through digital media, as outline above, have gradually been reassessed. To make this argument, we begin by exploring how physical embodiment has been theorised in the context of virtual presentations of the self, before turning our attention to the increasingly interwoven relationship between images of the body, digital media and concrete settings.

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## Embodying digital media

Physical embodiment incorporated into virtual presentations of self can be conceptualised along either representational or performative lines (see Schultze, 2014). Regarding the former, virtual bodies are passive signifiers that represent the “real” thing. Regarding the latter, “[the] relationship a person has with their avatar can go beyond that of creating an avatar and using that avatar to explore and communicate aspects of their identity” [15]. More precisely, users can establish connections with their avatars that prompt physical and emotional reactions. A helpful distinction can correlatively be made between the physical body and the phenomenal body (Biocca, 1997; Loomis, 1992, cited in Childs, 2011). Though the phenomenal body is not necessarily the users’ physical body, a screen-based image can still extend the body in such a way that the user physically experiences her mediated representation. As Childs (2011) observes, “[our] sense of ‘self’ resides wherever the phenomenal body is placed and it is this transfer of our phenomenal body on to an external agent [that] gives rise to embodiment” [16]. Building upon this observation, Knudsen (2004) posits embodiment involves a third aspect: the mental body, which is “the internal mental representation of a real or imagined body” [17]. In short, then, and in contrast to the nominal body outlined in the section above, the physical form is not an object that merely belongs to you, but more importantly is experienced as being you (Carruthers, 2009), and this experience can extend beyond the materiality of the flesh.

At the same time, of course, the relationship between identity and digital technologies is not, nor has it ever been, based on a true separation of the mind from body. During the early days of the Internet, many commentators argued that computer mediated communications (CMCs) allowed people to present new identities.

The role of the corporeal body in online engagement has been, at least until the very recent past, subject to a problematic real/digital distinction that assumes a separation of the geophysical space in which the corporeal body moves and a digital space or “cyberspace” in which the subject’s extended representation, interactive engagement, imagination, or even wholesale identity and selfhood move, separated from the “real world.” [18]

A “corporeal turn” (Grosz, 1994) in the mid-1990s, however, saw understandings of the body in the social sciences begin to change, with disembodied conceptualisations of identities online being questioned (Schultze, 2014). As Woodward (2002) rightly notes, “[cyberspace] may be disembodied but it is still ‘real’ bodies who press the keys and write the scripts” [19].

Today, and marking a further development in understandings of identity in the setting of digital media, the physicality of the body is routinely represented online in the form of, say, selfies on social media platforms like Facebook and Instagram. Because of this, a “more productive way of understanding the corporeal subject’s relationship with digital activities avoids conceptualizing online activities as a separate space and, instead, allows us to focus on the corporeal relationship with the technologies of digital media and communication themselves” [20]. Furthermore, the relationship between the flesh and digital media does not simply affect computational environments *per se* but can also affect physical settings and how these milieus are phenomenologically approached, navigated, and traversed by people in the course of their daily

lives (Evans and Saker, 2017). Importantly, this observation establishes a critical space to consider the impact of technologies on embodied identities in concrete settings.

The advent and ubiquity of mobile media “have the potential to rearrange further the constitutive conditions of identity in the context of new ways of articulating, recording, measuring, and engaging with our corporeal selves and corporeal others”. [21]. Accordingly, Haraway’s (1987) seminal figure of the “cyborg” — “a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction” [22] — provides a helpful lens to understand the varied contours of this imbricated relationship. Equally, this “creature of fiction” heralds a reality where “people are not afraid of their joint kinship with animal and machines, not afraid of permanently partial identities and contradictory standpoints” [23]. Putting the specificity of connections to one side, the potential impact of the cyborg is outwardly exacerbated by the extent to which “digital communication and media tools are increasingly incorporated into uses that involve close contact with the body” [24], and this impact can readily be observed through a range of contemporary digital media developments and innovations.

The majority of people in developed countries carry smartphones on their person at all times. Importantly, these devices can be used to record all manner of daily movements, mobilities and interactions (Saker and Evans, 2016). For Lupton (2016), these devices have, in part at least, led to what she refers to as the “quantified self”, which occurs when individuals utilise digital technologies to document, archive, and reflect on various aspects of their daily lives. More recently still, and notwithstanding issues pertaining to surveillance and privacy, smartphones and their proximity to the body have been employed by a number of countries to combat the spread of COVID-19 (Frith and Saker, 2020). In short, the continued advancement of emergent physical and digital assemblages underlines the mounting importance of corporeality in larger data collection systems, just as these advancements emphasise the degree to which digital media is inextricably linked to material aspects of one’s identity.

In the next section, then, we consider the current renaissance of VR (Evans, 2018) and the extent to which VR marks a further progression in the relationship between the flesh and digitality, one that forms a connective tissue between both disembodied and embodied conceptualisations of identity. Finally, we introduce the notion of contiguous identity as a suitable framework for understanding the nuances of this progression in the context of Meta’s possible dominance of the future of VR as a media form.

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## **The virtual self in virtual reality**

Today, both the human body and digital technologies are continuing to move closer together, both conceptually and physically speaking. This progression can readily be observed in the various ways the flesh is now reshaped by digital media, be it through images shared online through social media platforms, mobile technologies, or any number of nascent assemblages. Similarly, the renaissance of VR (Evans, 2018), which has led to the advent of widely adopted commercial wireless headsets — such as the Quest and Quest 2 (released under the Oculus label, which has now become Meta) — signifies a further development in this evolution.

As touched on earlier, and in contrast to the kind of weighty headsets available in the mid-1990s that necessitated cumbersome PCs to operate (Saker and Frith, 2020, 2019), wireless headsets have made VR more accessible and affordable (Jenkins, 2019). Both Quest headsets have sold well, with the Quest 2 quickly becoming the more widely adopted VR device, with over 10 million units sold. With VR on the precipice of widespread adoption, then, and with Meta’s massive investment in this field, now is an important moment to critically think about the implications for how we might conceptualise identity enacted through VR headsets and how repercussions build upon both disembodied and embodied understandings of identity as they pertain to digital media. This point can be explored in more detail by first considering Oculus’ remodeled avatar function.

In late April 2021, Oculus unveiled its “redesigned avatars that are more expressive and customizable than those that launched in 2016” (Faulker, 2021). Consequently, users now have a “quintillion possible combinations of hair, eyes, body type, facial hair, piercings, clothing, and other features” (Faulker, 2021) available to them through the avatar editor application. As Faulker (2021) explains, “[there] is no gender toggle, nor are there a pre-baked batch of face presets. Instead, the editor lets [users] dive into each facial feature, down to wrinkles, nose, and makeup”. And these updated avatars are set to become more prominent within the digital space of the supposed Metaverse, featuring in a range of social games across Meta’s platforms — as well as hinting at a level of consistency in the context of identity construction.

Significantly, then, the kind of virtual identities available to Meta VR users ostensibly resonates with the excitement that once surrounded early explorations of identity *à la* MUDs (Turkle, 1995), as well as online virtual environments like *Second Life* (Davis and Chansiri, 2019). Indeed, contemporary self-explorations in VR appear to facilitate a separation of mind from body, as users can readily create a suite of avatars that either align with or vastly differ from their nominal identities. This concealment, of course, is part and parcel of the technology (Lasko-Harvill, 1992). At the same time, of course, the virtual self within the VR space of Meta is markedly distinct from the kind of experiences associated with more traditional online media, and this difference relates to the unique phenomenology of the technology (Bailenson, 2018a; Saker and Frith, 2019).

Unlike, say, augmented reality (AR) applications that playfully overlay physical environments with digital information, such as Pokémon Go, for instance, the function of VR is distinctly about placing the user into a space that necessarily separates their dominant senses from the aesthetics of their concrete surroundings (Saker and Frith, 2019). As a result, the phenomenology of VR involves more than simply overlaying concrete settings with digital images, but instead implicates the creations of virtual environments that feel tangible by imbricating the physical and digital aspects within the headset. Symptomatic of this imbrication, the experience of VR is commonly described as the “feeling of being present in an environment” [25], which can “be acted upon *as if it were real*” [26]. Accordingly, “[the] notion of a material self is preserved by convincing the user that he or she is entering the virtual world with the earthbound body intact” [27]. To be clear, the body is explicitly involved in this assemblage. As Kilteni, *et al.* (2012) posit, VR facilitates a “sense of embodiment,” which can be described as “the ensemble of sensations that arise in conjunction with being inside, having, and controlling a body especially in relation to virtual reality applications” [28]. Importantly, this progression raises questions about how identity has been conceptualised up until this point, as VR users effectively extend themselves into the phenomenal body of the avatar (Biocca, 1997; Loomis, 1992, cited in Childs, 2011). This self-extension, however, is nuanced, and this distinction warrants circumspection.

While physical embodiment incorporated into virtual presentations of self can be conceptualised from either a representational or performative perspective (see Schultze, 2014), the virtual body within VR is never simply a passive signifier representing the “real” thing. Suggestively for the direction of this article, the physicality of users in VR is the phenomenal body and *vice versa*. In other words, the transference between a physical body and an avatar is not merely imagined in this context, but correspondingly embodied. As Cover (2015) notes while reflecting on the immersion of more traditional screen-based media: the “space on the other side of the screen ... can be figured as temporary, typically individualized, and mythical, constructed by our attempt to project ourselves toward and beyond the seam in an immersion that can never really, corporeally happen” [29]. *Contra* traditional screen-based, then, VR is specifically about moving beyond this seam (Saker and Frith, 2019), and these movements are uniquely embodied. Yet, the experience of VR is not wholly cohesive.

Notwithstanding the increasingly “coextensive” space endemic of recent headsets (Saker and Frith, 2020), there is a necessary disconnect between the digital aspect of VR and the tangible setting outside of the device (Saker and Frith, 2019). Although the movement of the physical body might be mirrored in the digital domain, this digitality is not material. Unless the user is wearing a haptic suit that provides physical feedback in relation to her avatar, she cannot feel the sensations experienced in the virtual setting. As such,

identity within VR involves a noteworthy paradox of sorts: the virtual self both is and is not embodied, and it because of this paradox that the virtual self within VR effectively forms a connective tissue between both disembodied and embodied understandings of identity as they pertain to advancements in digital media. It is precisely this contradictory relationship that permits VR to configure experiences that exceed the possibilities of concrete reality that reshape how we might conceptualise identity within this setting.

Echoing the excitement of online virtual worlds, VR is routinely depicted in popular media — such as the novel and movie *Ready Player One* (2018) — as letting users ostensibly escape their physical form by enter a digital realm of limitless possibility. In reality, of course, contemporary VR is not a world of limitless possibilities where users can construct identities free from physical constraints. As mentioned earlier, with the release of the Quest 2, Meta made the controversial decision to require users to sign into their headsets through their Facebook’s account (Robertson, 2020). This decision meant that Meta was, and still is, able to makes connections between social media profiles and corresponding experiences in VR. Of course, by requiring users to sign into their headsets through their Facebook accounts, users are suddenly identifiable, and this recognisability implicates a corresponding level of data that far exceeds say, a *Second Life* account, or indeed a Facebook account separate from this relationship. This excess is noteworthy in the context of this article. As Bailenson (2018b) explains:

[Commercial] VR systems typically track body movements 90 times per second to display the scene appropriately, and high-end systems record 18 types of movements across the head and hands. Consequently, spending 20 minutes in a VR simulation leaves just under 2 million unique recordings of body language (cited in Carter and Egliston, 2020).

The virtual self through the lens of Facebook, then, suggests a more embodied progression of the “quantified self” (Lupton, 2016), one that can be connected to the myriad data correspondingly available through one’s social media account and so on. It is, therefore, our contention that the virtual self in the digital space of the supposed Metaverse is predicated on a particular contiguity between embodied experiences and the representation of users on their social media account. This relationship has consequences for how we might theorise identity, as well as how we might understand emerging forms of surveillance capitalism (Zuboff, 2015).

To account for the potential of a Meta-dominated VR future and its implications for identity construction, then, we introduce the concept contiguous identities. We define contiguous identities as the phenomenon of constructing identity in VR that is forcibly tied back to the physical world through data amassed on respective social media platforms, while simultaneously providing an internal point of observation for companies such as Meta — a point of view that can then be algorithmically contextualised with vast sums of personal information. As discussed above, much of the writing on identity in the context of VR explored the technology’s potential in terms of disembodiment, as the ability to construct avatars and interact in a parallel virtual environment that is novel because of its deeper levels of presence and immersion as compared to other digital media forms (Saker and Frith, 2020). Obviously, embodiment still plays a role in any identity construction through VR because as scholars like Hayles (1999) and Baym (2015) have reminded us, we cannot ever leave our bodies behind. However, the growth of Meta makes embodiment an even more core issue because of the following two reasons, (1) the linking of VR logins to Facebook accounts and (2) the collection of corporeal data through Meta headsets.

To briefly reiterate, the requirement that Quest 2 users login to their headsets through their Facebook account meant users were suddenly forced to link their experiences in VR to Facebook accounts tied to their physical identities. This change effectively tethers any virtual identity construction back to someone’s existing Facebook account, which then links their VR interactions back to their physical identity because Facebook requires all users to use their “real names” or risk being banned from the platform (boyd, 2012). Consequently, the supposed freedom to construct identity in virtual worlds through Oculus headsets, as discussed above, is immediately limited as virtual interactions are tied back to Facebook accounts, which



are a prerequisite for entering the digital space of Meta's VR.

Following in this vein, Meta also appears intent on users constructing singular avatars that are then seamlessly experienced across multiple Facebook applications. In other words, any identity performed in Meta's VR is necessarily contiguous with the identity performed on Facebook, which consequently links VR identity performance back to the users' interactions in the physical world because of the "real name" requirements detailed above. More precisely, identity construction from this position becomes both a parallel performance in a virtual environment that is contiguous with as identity performed in the physical world. If Meta does continue to dominate VR in the future, this contiguity will only become more pronounced as more and more Facebook profiles are linked to virtual avatars and so on.

Meta's linking of VR experiences to established Facebook identities also has marked implications for the types of surveillance capitalism the company has built its empire on (Zuboff, 2019). The practice of contiguous identity in which people interact in virtual worlds but are implicitly associated with their physical selves can potentially become a major source of data collection. As discussed earlier, Oculus headsets collect granular data about the movements of users and the physical settings in which these movements take place. In turn, the corporeal actions of VR users are connected to other profiles that are part of the larger Meta company. This contiguity of performance, then, transforms the supposed immersive, parallel experience of VR into something that very explicitly forms part of a larger data profile produced about a user that combines sources from multiple platforms. As such, the VR experience through Meta is not isolated or separate from other identity performances as it pertains to data collection, but instead part and parcel of this process.

Significantly, it is our contention this process will likely become more pronounced as Meta's dominance of VR grows in the coming years and related headsets potentially incorporate the bodily data gathered through wearable technologies, such as smart watches and fitness trackers. Indeed, fitness is a significant aspect of Zuckerberg's vision for Meta, as demonstrated by Meta's "Metaverse" announcement and promotional videos. As touched on earlier, Lupton's (2016) notion of the "quantified self" is directly predicated on individuals employing digital technologies to record various aspects of their daily lives, such as their blood oxygen levels, heart rate, menstrual cycles, fitness levels, and so on. These wearable technologies can then be combined with other technologies, such as fitness equipment, to metricize the physical activity of users into bodily data. Here, it seems probable that Meta will eventually augment its VR headsets to include fitness trackers able to document the phenomenal body of users while in the digital space of the VR. If this is the case, contiguous identities will not only implicate aspects of the nominal self, alongside qualitative and quantitative data on the sociability of users, as documented through, say Facebook and Instagram, but will also draw on health related data that extends into the flesh. Of course, the gathering of granular data is noteworthy given the long, established history of questionable data practices that traces back to Facebook's founding.

The Cambridge Analytica scandal in 2018, for example, demonstrates how Facebook (now Meta) has used personal data gathered through Facebook accounts to establish sophisticated understandings of users that can predict their future needs as well as the implications these predictions have in the context of political elections and campaigns (see Cadwalladr and Graham-Harrison, 2018). Following in this vein, the contiguity of identity through VR might allow Meta to perform even more intricate psychographic analysis of users that incorporates myriad data points that includes social interactions, physical spaces, and biometric information. And as the contiguity of the self in this space enables digital identities to become more contextual and granular, these digital proxies might be used to make predictions about possible identity projection, just as these projections might be leveraged for a variety of reasons beyond an initial desire for experimentations. In other words, VR through Meta is not simply a digital space for users to inhabit, but a space in which users are inhabited. As Lasko-Harvill (1992) astutely observed almost three decades ago:

[while] much energy goes into making the virtual reality world like physical reality, there are many kinds of interactions

possible *only* in virtual reality. In virtual reality we can, with disconcerting ease, exchange eyes with another person and see ourselves and the world from their vantage point. [30]

At the same time, this capacity is not limited to oscillations of perspective as they pertain to users. Likewise, this means that the vista within the space of VR headsets is not necessarily a singular viewpoint. This observation can be further developed through Meta's announced VR social platform Horizon. As Lang (2020) explains, "[first], all the users in Horizon are involuntarily recording each other. The last few minutes of everything that users see and hear is recorded on a rolling basis." Additionally, "anyone you interact with can invite an invisible observer from Facebook to come surveil you and your conversations in real-time to make sure you don't break any rules" (Lang, 2020). While Meta claims recordings will only extend beyond the headset if a report is made by another user, this does not mean things won't change in the future.

In sum, then, the contiguity of the virtual self in Meta's VR, as well as the supposed Metaverse, doesn't only implicate a nexus between Facebook social media accounts, vast sums of personal data, and physical movements in VR. More accurately, the virtual self becomes an unwitting beacon of surveillance. Observing the Metaverse from this angle, VR doesn't forge a forum for social interactions and experimentation. Instead, Meta revolves around the development of a world in which Meta can parasitically inhabit users inhabiting this setting. Given how Facebook has gathered and misused data in the past (Vaidhyathan, 2018), we argue that the scholarly contours of this relationship warrant further critical consideration.



## Conclusion

The Metaverse does not exist and likely will never exist at nearly the scale presented in Facebook's Meta announcement. The vision of the Metaverse at the release was almost a return to the "cyberspaces" of earlier VR novels. After all, the Metaverse Zuckerberg presented envisions people living seemingly parallel virtual lives alongside their physical lives, doing everything from exercising to attending work meetings to using social networking sites through VR. As many commentators have noted, that vision is likely mostly hyperbolic hype (Fenlon, 2021). We are still far away from the kinds of wide-ranging engagement with VR Zuckerberg is hoping for. Yet, even if the Metaverse itself is mostly hype, the announcement of Meta signals a massive investment in VR from one of the most powerful companies in the world, a company that clearly wants to dominate the future of the media form. As of early 2022, people interested in VR still have non-Meta options, with both Sony and HTC continuing to work on VR headsets. But Meta's devices have been by far the most popular, and Meta's future investment in VR is likely to be unmatched by any other competitor.


Regardless of the validity of a possible Metaverse, we argue that the mere goal of building a Metaverse has major implications for identity construction in VR that needs to be critically theorised — particularly with Quest 2 users still being required to log in to their headsets through their Facebook accounts. The Facebook requirement was, of course, intensely unpopular amongst Quest users, and on the same day of the Meta announcement, Andrew Bosworth — Meta's head of Reality Labs — posted that "As we've focused more on work, and as we've heard feedback from the VR community more broadly, we're working on new ways to log in to Quest that won't require a Facebook account, landing sometime next year" (Orland, 2021). Zuckerberg also addressed the controversy in an interview, saying the Facebook requirement had led to some confusion, before adding, "I think it is just very valuable and useful for people to have a different relationship with the company than with each of the specific apps" (Thompson, 2021).

At this juncture, we should point out that we are not suggesting Meta is currently doing anything obviously unethical with this information. Nonetheless, as of our writing in January 2022, the suggested changes

Andrew Bosworth outlined have not actually happened. But even assuming they do, we question how much impact they will have on the issues of identity discussed in this article. For one, if Meta does become a dominant VR force, there will be little to stop them from either reinstating this policy or, more extremely, instituting a Meta login that crossed all platforms — as is the case with Stack Exchange [31] or Wikimedia [32], for instance, which use similar architectures. Additionally, the company is notoriously opaque with how it manages user data, so if the promised separation of VR logins from Facebook logins does happen, it's unclear what will stop the company from combining data from its different platforms for its digital data profiles. Likewise, Facebook has a track record of going against their promises, just as they have a history of dubious decisions that rarely seem to be made in the interest of individuals users and their personal freedoms. Further still, even if Meta does follow through on its promise, it seems clear that the company could still make meaningful associations between multiple Meta accounts when it comes to identifying users. In other words, Facebook will still know which users are associated with what accounts and so on.

Before concluding our analysis of the potential limits of identity in VR, we want to turn to the Facebook Papers that we briefly mentioned earlier. The Facebook Papers were internal documents, ranging from research reports to internal communications, that were disclosed to the U.S. Securities and Exchange Commission by whistle-blower Frances Haugen. The documents featured a number of troubling revelations, ranging from Instagram knowingly using algorithms that were detrimental to the mental health of users (especially young women) to Facebook lifting restrictions on hate speech in ways that significantly contributed to the 6 January insurrection in Washington, D.C., and the picture the documents painted of Facebook's inability to manage hate speech in the rest of the world was even darker than the revelations about the U.S. The leaked documents painted a deeply troubling picture of the company knowingly engaging in practices that harm users.

Ultimately, few of the revelations in the Facebook Papers were directly related to what we have focused on in this article. There is little in them about VR and few of the documents directly addressed how Facebook collects and uses user data. Consequently, they might seem like a strange direction to turn to conclude our article. But we argue the revelations of the Facebook papers are very relevant to issues of identity in the future of the supposed Metaverse for one primary reason: They clearly show that Facebook frequently misleads the public and statements from their leadership cannot be trusted. For example, Zuckerberg has claimed Facebook treats all users equally, but the leaked documents reveal the company makes broad exceptions for a “secret elite” of high-profile accounts, including prominent political figures (Horwitz, 2021). In October 2020, Zuckerberg testified in front of the U.S. Congress and testified that Facebook removes 94 percent of the hate speech it finds before a human reports it (Lima, 2021), but the leaked documents showed internal research estimates the actual number at about five percent. Those are just two examples of how the company has repeatedly, and knowingly, misled the public in alarming ways.

At this point, it is still far too early to tell what will happen with the Metaverse. But very little in Meta's history suggest that choices will be made that benefit users' freedoms and privacy over shareholders' interests. Especially considering the revelations of the Facebook Papers, promises from Mark Zuckerberg to unlink the company's VR platforms from their Facebook profiles should be viewed with significant scepticism. Consequently, we argue conceptualizations of identity in VR will only become more pressing if these identities eventually become part of the supposed Metaverse that Meta is outwardly intent on building. In an ideal world, the argument we have developed here will not prove useful and the concept of contiguous identities will not be applicable because Meta will not find ways to exploit corporeal data in VR and tie it to users' data on other platforms. But we do not live in an ideal world, and little in the company's history gives us faith that these data linkages will not be a core part of the future of the Metaverse. Our hope is that the concept of contiguous identity will be an initial step that helps researchers further conceptualize the limits of identity and the potentials for new forms of surveillance capitalism built into the vision of the Metaverse. 

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## Notes

- [1.](#) Schultze, 2014, p. 84.
- [2.](#) Schultze, 2014, p. 85.
- [3.](#) Stets and Burke, 2003, p. 130; Childs, 2011, p. 15.
- [4.](#) Childs, 2011, p. 15.
- [5.](#) Childs, 2011, p. 16.
- [6.](#) Goffman, 1959, p. 30.
- [7.](#) McLeod and Leshad, 2011, p. 197.
- [8.](#) Baym, 2015, p. 174.
- [9.](#) McLeod and Leshad, 2011, pp. 197–198.
- [10.](#) Turkle, 1995, pp. 263–264.
- [11.](#) Davis and Chansiri, 2019, p. 493.
- [12.](#) Mazalek, *et al.*, 2011, p. 129.
- [13.](#) Taylor, 2002, p. 58.
- [14.](#) Amdahl, 2007; Childs, 2011, p. 21.
- [15.](#) Childs, 2011, p. 25.
- [16.](#) *Ibid.*
- [17.](#) Knudsen, 2004, p. 43.
- [18.](#) Cover, 2015, p. 126.
- [19.](#) Woodward, 2002, p. 117, cited in Cover, 2015, p. 110.
- [20.](#) Cover, 2015, p. 127.
- [21.](#) Cover, 2015, p. 105.
- [22.](#) Haraway, 2004, p. 7.
- [23.](#) Haraway, 2004, p. 13.

24. Cover, 2015, p. 121.
25. Schroeder, 2010, p. 25.
26. Lasko-Harvill, 1992, p. 223, italics in the original.
27. Scott, 2012, p. 251.
28. Kilteni, *et al.*, 2012, pp. 374–375.
29. Cover, 2015, p. 128.
30. Lasko-Harvill, 1992, p. 227, italics in the original.
31. <https://stackoverflow.com/sites#>.
32. <https://www.wikimedia.org/>.

## References

- K. Amdahl, 2007 “New world, new words!” *Winged Girl Blog* (23 May), at <http://kateamdahl.livejournal.com/13121.html>, accessed 25 February 2022.
- S.C. Baker, R.K. Wentz, and M.M. Woods, 2009. “Using virtual worlds in education: *Second Life*® as an educational tool,” *Teaching of Psychology*, volume 36, number 1, pp. 59–64.  
doi: <https://doi.org/10.1080/00986280802529079>, accessed 25 February 2022.
- J. Bailenson, 2018a. *Experience on demand: What virtual reality is, how it works, and what it can do?* New York: Norton.
- J. Bailenson, 2018b. “Protecting nonverbal data tracked in virtual reality,” *JAMA Pediatrics*, volume 172, number 10, pp. 905–906.  
doi: <https://doi.org/10.1001/jamapediatrics.2018.1909>, accessed 25 February 2022.
- N.K. Baym, 2015. *Personal connections in the digital age*. Second edition. Cambridge: Polity Press.
- F. Biocca, 1997. “The cyborg’s dilemma: Progressive embodiment in virtual environments,” *Journal of Computer-Mediated Communication*, volume 3, number 2, JCMC324.  
doi: <https://doi.org/10.1111/j.1083-6101.1997.tb00070.x>, accessed 25 February 2022.
- T. Boellstorff, 2015. *Coming of age in Second Life: An anthropologist explores the virtually human*. Princeton, N.J.: Princeton University Press.
- d. boyd, 2012. “The politics of real names,” *Communications of the ACM*, volume 55, number 8, pp. 29–31.  
doi: <https://doi.org/10.1145/2240236.2240247>, accessed 25 February 2022.
- S. Byford, 2021. “Almost a fifth of Facebook employees are now working on VR and AR: report,” *Verge* (12 March), at <https://www.theverge.com/2021/3/12/22326875/facebook-reality-labs-ar-vr-headcount-report>, accessed 25 February 2022.
- C. Cadwalladr and E. Graham-Harrison, 2018. “Revealed: 50 million Facebook profiles harvested for Cambridge Analytica in major data breach,” *Guardian* (17 March), at <https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election>, accessed 22 March 2022.

- G. Carruthers, 2009. "Is the body schema sufficient for the sense of embodiment? An alternative to de Vignemont's model," *Philosophical Psychology*, volume 22, number 2, pp. 123–142.  
doi: <https://doi.org/10.1080/09515080902802785>, accessed 25 February 2022.
- M. Carter and B. Egliston, 2020. "Facebook's virtual reality push is about data, not gaming," *Conversation* (18 September), at <https://theconversation.com/facebooks-virtual-reality-push-is-about-data-not-gaming-145730>, accessed 14 May 2021.
- M. Childs, 2011. "Identity: A primer," In: A. Peachey and M. Childs (editors). *Reinventing ourselves: Contemporary concepts of identity in virtual worlds*. London: Springer, pp. 13–31.  
doi: [https://doi.org/10.1007/978-0-85729-361-9\\_2](https://doi.org/10.1007/978-0-85729-361-9_2), accessed 25 February 2022.
- R. Cover, 2015. *Digital identities: Creating and communicating the online self*. London: Academic Press.
- D.Z. Davis and K. Chansiri, 2019. "Digital identities — Overcoming visual bias through virtual embodiment," *Information, Communication & Society*, volume 22, number 4, pp. 491–505.  
doi: <https://doi.org/10.1080/1369118X.2018.1548631>, accessed 25 February 2022.
- A. De Lucia, R. Francese, I. Passero, and G. Tortora, 2009. "Development and evaluation of a virtual campus on Second Life: The case of SecondDMI," *Computers & Education*, volume 52, number 1, pp. 220–233.  
doi: <https://doi.org/10.1016/j.compedu.2008.08.001>, accessed 25 February 2022.
- L. Evans, 2018. *The re-emergence of virtual reality*. New York: Routledge.  
doi: <https://doi.org/10.4324/9781351009324>, accessed 25 February 2022.
- L. Evans and M. Saker, 2017. *Location-based social media: Space, time and identity*. Cham, Switzerland: Palgrave Macmillan.  
doi: <https://doi.org/10.1007/978-3-319-49472-2>, accessed 25 February 2022.
- C. Faulkner, 2021. "Oculus is rolling out its new and more expressive avatars starting today," *Verge* (23 April), at <https://www.theverge.com/2021/4/23/22398060/oculus-new-avatars-editor-features-vr-virtual-reality-facebook-quest-rift>, accessed 10 May 2021.
- W. Fenlon, 2021. "The metaverse is bullshit," *PC Gamer* (29 October), at <https://www.pcgamer.com/the-metaverse-is-bullshit/>, accessed 25 February 2022.
- J. Frith, 2015. *Smartphones as locative media*. Cambridge: Polity Press.
- J. Frith and M. Saker, 2020. "It is all about location: Smartphones and tracking the spread of COVID-19," *Social Media + Society* (30 July).  
doi: <https://doi.org/10.1177/2056305120948257>, accessed 25 February 2022.
- A. Giddens, 1991. *Modernity and self-identity: Self and society in the late modern age*. Stanford, Calif.: Stanford University Press.
- T. Gillespie, 2018. *Custodians of the Internet: Platforms, content moderation, and the hidden decisions that shape social media*. New Haven, Conn.: Yale University Press.
- E. Goffman, 1959. *The presentation of self in everyday life*. Harmondsworth: Penguin.
- A. Gorini, A. Gaggioli, and G. Riva, 2008. "A second life for eHealth: Prospects for the use of 3-D virtual worlds in clinical psychology," *Journal of Medical Internet Research*, volume 10, number 3, e21.  
doi: <https://doi.org/10.2196/jmir.1029>, accessed 25 February 2022.

B. Greiner, M. Caravella, and A.E. Roth, 2014. "Is avatar-to-avatar communication as effective as face-to-face communication? An Ultimatum Game experiment in First and Second Life," *Journal of Economic Behavior & Organization*, volume 108, pp. 374–382.

doi: <https://doi.org/10.1016/j.jebo.2014.01.011>, accessed 25 February 2022.

E.A. Grosz, 1994. *Volatile bodies: Toward a corporeal feminism*. Bloomington: Indiana University Press.

D.J. Haraway, 2004. *The Haraway reader*. New York: Routledge.

D. Haraway, 1987. "A manifesto for Cyborgs: Science, technology, and socialist feminism in the 1980s," *Australian Feminist Studies*, volume 2, number 4, pp. 1–42.

doi: <https://doi.org/10.1080/08164649.1987.9961538>, accessed 25 February 2022.

N.K. Hayles, 1999. *How we became posthuman: Virtual bodies in cybernetics, literature, and informatics*. Chicago: University of Chicago Press.

J. Horwitz, 2021. "Facebook says its rules apply to all. Company documents reveal a secret elite that's exempt," *Wall Street Journal* (13 September), at <https://www.wsj.com/articles/facebook-files-xcheck-zuckerberg-elite-rules-11631541353>, accessed 20 January 2021.

A. Jenkins, 2019 "The fall and rise of VR: The struggle to make virtual reality get real," *Fortune* (20 June), at <https://fortune.com/longform/virtual-reality-struggle-hope-vr/> accessed 10 May 2021.

K. Kilteni, R. Groten, and M. Slater, 2012. "The sense of embodiment in virtual reality," *Presence: Teleoperators and Virtual Environments*, volume 21, number 4, pp. 373–387.

doi: [https://doi.org/10.1162/PRES\\_a\\_00124](https://doi.org/10.1162/PRES_a_00124), accessed 25 February 2022.

C.J.S. Knudsen, 2004. "Presence production," doctoral dissertation, KTH Royal Institute of Technology (*Kungliga Tekniska högskolan*), at <https://www.diva-portal.org/smash/get/diva2:9678/FULLTEXT01.pdf>, accessed 25 February 2022.

B. Lang, 2020. "In 'Horizon' Facebook can invisibly observe users in real-time to spot rule violations," *Road To VR* (28 August), at <https://www.roadtovr.com/facebook-horizon-privacy-monitoring-moderation/>, accessed 14 May 2021.

A. Lasko-Harvill, 1992. "Identity and mask in virtual reality," *Discourse*, volume 14, number 2, pp. 222–234, and at <https://digitalcommons.wayne.edu/discourse/vol14/iss2/13>, accessed 25 February 2022.

C. Lima, 2021. "A whistleblower's power: Key takeaways from the Facebook Papers," *Washington Post* (26 October), at <https://www.washingtonpost.com/technology/2021/10/25/what-are-the-facebook-papers/>, accessed 20 January 2021.

J.M. Loomis, 1992. "Distal attribution and presence," *Presence: Teleoperators and Virtual Environments*, volume 1, number 1, pp. 113–119.

doi: <https://doi.org/10.1162/pres.1992.1.1.113>, accessed 25 February 2022.

D. Lupton, 2016. *The quantified self*. Cambridge: Polity Press.

T. Malaby, 2009. *Making virtual worlds: Linden Lab and Second Life*. Ithaca, N.Y.: Cornell University Press.

N. Manders-Huits, 2010. "Practical versus moral identities in identity management," *Ethics and Information Technology*, volume 12, number 1, pp. 43–55.

doi: <https://doi.org/10.1007/s10676-010-9216-8>, accessed 25 February 2022.

- A. Mazalek, S. Chandrasekharan, M. Nitsche, T. Welsh, and P. Clifton, 2011. "Embodying self in virtual worlds," In: A. Peachey and M. Childs (editors). *Reinventing ourselves: Contemporary concepts of identity in virtual worlds*. London: Springer, pp. 129–151.  
doi: [https://doi.org/10.1007/978-0-85729-361-9\\_7](https://doi.org/10.1007/978-0-85729-361-9_7), accessed 25 February 2022.
- P.L. McLeod and G. Leshed, 2011. "As long as they don't know where I live: Information disclosure strategies for managing identity in Second Life™," In: A. Peachey and M. Childs (editors). *Reinventing ourselves: Contemporary concepts of identity in virtual worlds*. London: Springer, pp. 191–211.  
doi: [https://doi.org/10.1007/978-0-85729-361-9\\_10](https://doi.org/10.1007/978-0-85729-361-9_10), accessed 25 February 2022.
- N. Negroponte, 1995, *Being digital*. London: Hodder & Stoughton.
- K. Orland, 2021. "Meta removing Facebook login requirement for Quest headsets by next year," *Ars Technica* (29 October), at <https://arstechnica.com/gaming/2021/10/meta-removing-facebook-login-requirement-for-quest-headsets-by-next-year/>, accessed 25 February 2022.
- E. Parker and M. Saker, 2020. "Art museums and the incorporation of virtual reality: Examining the impact of VR on spatial and social norms," *Convergence*, volume 26, numbers 5–6, pp. 1,159–1,173.  
doi: <https://doi.org/10.1177/1354856519897251>, accessed 25 February 2022.
- S. Percival, 2008. *Second Life in-world travel guide*. Indianapolis, Ind.: Que.
- A. Robertson, 2020 "Facebook is making Oculus' worst feature unavoidable," *Verge* (19 August), at <https://www.theverge.com/2020/8/19/21375118/oculus-facebook-account-login-data-privacy-controversy-developers-competition>, accessed 12 May 2021.
- V. Romo, 2021. "Whistleblower's testimony has resurfaced Facebook's Instagram problem," *NPR* (5 October), at <https://www.npr.org/2021/10/05/1043194385/whistleblowers-testimony-facebook-instagram>, accessed 25 February 2022.
- M. Saker and L. Evans, 2016. "Locative media and identity: Accumulative technologies of the self," *SAGE Open* (8 August).  
doi: <https://doi.org/10.1177/2158244016662692>, accessed 25 February 2022.
- M. Saker and J. Frith, 2020. "Coextensive space: Virtual reality and the developing relationship between the body, the digital and physical space," *Media, Culture & Society*, volume 42, numbers 7–8, pp. 1,427–1,442.  
doi: <https://doi.org/10.1177/0163443720932498>, accessed 25 February 2022.
- M. Saker and J. Frith, 2019. "From hybrid space to dislocated space: Mobile virtual reality and a third stage of mobile media theory," *New Media & Society*, volume 21, number 1, pp. 214–228.  
doi: <https://doi.org/10.1177/1461444818792407>, accessed 25 February 2022.
- R. Schroeder, 2010. *Being there together: Social interaction in shared virtual environments*. Oxford: Oxford University Press.  
doi: <https://doi.org/10.1093/acprof:oso/9780195371284.001.0001>, accessed 25 February 2022.
- U. Schultze, 2014. "Performing embodied identity in virtual worlds," *European Journal of Information Systems*, volume 23, number 1, pp. 84–95.  
doi: <https://doi.org/10.1057/ejis.2012.52>, accessed 25 February 2022.
- R.B. Scott, 2012. "The body electric: Notions of self and identity in the age of virtual reality," *Explorations in Media Ecology*, volume 10, numbers 3–4, pp. 247–262.  
doi: [https://doi.org/10.1386/eme.14.3-4.275\\_1](https://doi.org/10.1386/eme.14.3-4.275_1), accessed 25 February 2022.



K. Stendal, S. Balandin, and J. Molka-Danielsen, 2011. "Virtual worlds: A new opportunity for people with lifelong disability?" *Journal of Intellectual and Developmental Disability*, volume 36, number 1, 80–83. doi: <https://doi.org/10.3109/13668250.2011.526597>, accessed 25 February 2022.

J.E. Stets and P.J. Burke, 2003. "A sociological approach to self and identity," In: M.R. Leary and J.P. Tangney (editors). *Handbook of self and identity*. New York: Guilford Press, pp. 128–152.

T.L. Taylor, 2002. "Living digitally: Embodiment in virtual worlds," In: R. Schroeder (editor). *The social life of avatars: Presence and interaction in shared virtual environments*. London: Springer, pp. 40–62. doi: [https://doi.org/10.1007/978-1-4471-0277-9\\_3](https://doi.org/10.1007/978-1-4471-0277-9_3), accessed 25 February 2022.

B. Thompson, 2021. "An interview with Mark Zuckerberg about the Metaverse," *Stratechery* (28 October), at <https://stratechery.com/2021/an-interview-with-mark-zuckerberg-about-the-metaverse/>, accessed 25 February 2022.

C. Timberg, E. Dwoskin, and R. Albergotti, 2021. "Inside Facebook, Jan. 6 violence fuelled anger, regret over missed warning signs," *Washington Post* (22 October), at <https://www.washingtonpost.com/technology/2021/10/22/jan-6-capitol-riot-facebook/>, accessed 25 February 2022.

S. Turkle, 1995. *Life on the screen: Identity in the life of the Internet*. New York: Simon & Shuster.

S. Vaidhyanathan, 2018. *Antisocial media: How Facebook disconnects us and undermines democracy*. Oxford: Oxford University Press.

B.A. White, 2008. *Second Life: A guide to your virtual world*. Indianapolis, Ind.: Que.

K. Woodward, 2002. *Understanding identity* London: Arnold.

S. Zuboff, 2019. *The age of surveillance capitalism: The fight for a human future at the new frontiers of power*. New York: PublicAffairs.

S. Zuboff, 2015. "Big other: Surveillance capitalism and the prospects of an information civilization," *Journal of Information Technology*, volume 30, number 1, pp. 75–89. doi: <https://doi.org/10.1057/jit.2015.5>, accessed 25 February 2022.

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