Sociality and Embodiment: Online Communication During and After Covid-19

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Abstract

During the Covid-19 pandemic we increasingly turned to technology to stay in touch with our family, friends, and colleagues. Even as lockdowns and restrictions ease many are encouraging us to embrace the replacement of face-to-face encounters with technologically mediated ones. Yet, as philosophers of technology have highlighted, technology can transform the situations we find ourselves in. Drawing insights from the phenomenology of sociality, we consider how digitally-enabled forms of communication and sociality impact our experience of one another. In particular, we draw attention to the way in which our embodied experience of one another is altered when we meet in digital spaces, taking as our focus the themes of perceptual access, intercorporeality, shared space, transitional spaces, and self-presentation. In light of the way in which technological mediation alters various dimensions of our social encounters, we argue that digital encounters constitute their own forms of sociality requiring their own phenomenological analysis. We conclude our paper by raising some broader concerns about the very framework of thinking about digitally and non-digitally mediated social encounters simply in terms of replacement.

Keywords Phenomenology · Sociality · Online sociality · Embodiment · Technology · Covid-19

1 Introduction

The telegram, the walkie-talkie, the telephone: technology has long allowed us to communicate with one another at a distance. Yet, the proliferation and sophistication of our communication tools have rapidly increased in recent decades. From Facebook, to WhatsApp, to Zoom, to Instagram, to Twitter, we are now able to interact while geographically apart in many ways and forms. As many of us have been in various states of lockdown across the

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globe during the Covid-19 pandemic, we have increasingly turned to technology to stay in touch with our family, friends, and colleagues while in the (dis)comfort of our homes. Indeed, during the pandemic there have been periods where our online platforms have become our dominant (and, for some, only) means of communicating and being together with others.

As lockdowns ease and we are allowed to re-enter our social spaces, to travel to those we do not live near, to return to our various places of work, will we put down our screens and return to our physically co-present face-to-face interactions? Perhaps not. There are many who are encouraging us to continue the digital expansion that resulted from the Covid-19 crisis. Eric Schmidt, the former CEO of Google, has argued that digital technology should continue to be developed and deployed in all areas of our everyday lives beyond the end of the pandemic.[1] There have been calls for increased use of digital technology for teaching, therapy, and medical treatment, with emphasis on increased opportunities for access via technology. For instance, Matt Hancock, the former British Health Secretary, declared that telemedicine should become the norm not the exception, that the UK needs "more Zoom medicine" and that "all consultations should be teleconsultations unless there's a compelling clinical reason not to".[2] Most ambitiously, in 2021, Mark Zuckerberg announced the move of his company's focus from its social media platforms to the development of the *metaverse* – a virtual world where people can work, play, and socialise; a virtual world that could "[shift] our existence from being rooted in the physical world to one in which our digital presence increasingly supplements our real one".[3] The call to embrace the digital world is not just the ambition of tech giants and politicians. In his recent book *Reality+* (Chalmers, 2022), the philosopher David Chalmers postulates that, as our technology improves and our virtual worlds expand, "we may spend much of our lives in these [virtual] environments, whether for work, socialising, or entertainment" (Chalmers, 2022, xiii).[4] Indeed, Chalmers predicts that within 100 years our virtual worlds will be "indistinguishable" from our non-virtual ones (Chalmers, 2022, xiv).[5]

Underpinning this brand of techno-optimism is the implication that technologically mediated social interactions are equivalent to non-technologically mediated ones and, as such, can (and, in some cases, even should) *replace* non-technologically mediated ones. Chalmers even envisages the possibility of "perfect" replacements of non-mediated ones in the sense that they will be indistinguishable from them. Yet, as philosophers of technology have highlighted, technology can "radically transform" the situations we find ourselves in (Ihde, 2002, 7; also see Verbeek 2011, Rosenberger & Verbeek, 2015). Drawing insights

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[1] https://theintercept.com/2020/05/08/andrew-cuomo-eric-schmidt-coronavirus-tech-shock-doctrine/.

[2] https://htn.co.uk/2020/07/31/matt-hancock-gp-tele-consultations-should-be-default-unless-reason-not-to/.

[3] https://www.vox.com/recode/22799665/facebook-metaverse-meta-zuckerberg-oculus-vr-ar.

[4] We focus here on Chalmers' position due to the radicality and strength of his claim. However, he is not the first person to argue for the potential of digital replacement. For instance, in his infamous book *The Virtual Community: Homesteading on the Electronic Frontier*, Howard Rheingold describes the hyper-realist vision of "the use of communications technologies as a route to the total replacement of the natural world and the social order with a technologically mediated hyper-reality" (Rheingold, 2000, 257). Ideas about the replacement of 'natural' worlds with 'digital' worlds can also be found, in various forms, in transhumanist discussions (e.g., Kurzweil 2005), though note that many transhumanists argue for replacement not because they see technologically mediated worlds as equivalent to non-mediated ones but precisely because they think they transcend them.

[5] We will not address how plausible this claim is here. Though it is worth noting that Chalmers' position rests on a heavily cognitivist approach to mind.

from the phenomenology of sociality, we consider how digitally-enabled forms of communication and sociality impact our experience of one another. In particular, we draw attention to the way in which our embodied experience of one another is altered when we meet in digital spaces. In doing so, we challenge the idea that online forms of social encounters are simply equivalent to offline ones and call for a more nuanced understanding and assessment of online forms of sociality.

In Sect. 2, we loosely sketch some benefits and drawbacks related to our reliance on technology in the Covid-19 pandemic for our social interactions. In Sect. 3, focusing on technology that is currently available to us, we analyse various ways in which our social encounters are altered when they are technologically mediated. We suggest that due to the alterations in the structure of our social encounters, we should view digital encounters as constituting their own forms of sociality requiring their own phenomenological analysis. Importantly for the matter at hand, such alterations unsettle the claim that online social encounters can be thought of as equivalent to offline ones and pose challenges to thinking of online sociality as a mere replacement of offline sociality. While technology facilitates many ways to communicate with each other via digital mediation, sociality consists of more than the communication of information. For a helpful analysis (or even robust critique) of the role that online social interaction might play in our worlds to emerge, we need to attend to the ways in which our holistic embodied social interactions are shaped by technological mediation. In Sect. 4, we note that the techno-optimists are likely to rebut our position by appealing to future technology where our digitally and non-digitally mediated will be "indistinguishable" from one another and, thus, should clearly be seen as equivalent to one another. Indeed, it may be that our analysis can be viewed as a design tool for thinking about how to best replicate embodied forms of interaction in digital worlds. We conclude, however, by raising some concerns about the very framework of thinking about digitally and non-digitally mediated social encounters in terms of replacement.

2 Online Sociality and the Covid-19 Pandemic

Online communication undeniably has benefits. During the Covid-19 pandemic, many of us have been thankful for the electronic devices that have allowed us to stay in contact with our families and friends; devices that have allowed us to chat, to watch movies together, to play games together, to collaborate together, to make music and art together, and even for us to congregate to grieve for those we have lost. In a time when our social circles have threatened to collapse in on themselves, technology has kept us connected.

Our technology grants us the ability to communicate and connect with those we are not physically close to. And, for those of us with the right tools and skillset, allows us to do this with remarkable ease.[6] With a few taps of a screen, one can Zoom with colleagues on

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[6] Discussions of how technology might alter or replace offline sociality presuppose that people both have access to digital technology and are suitably 'digitally literate' (Ramsetty & Adams, 2020; Tejedor et al., 2020). While we will not discuss this issue here, this raises questions about digital divides (i.e., the potential gulf that exists between those who have access to digital technology and those who do not). The pandemic has highlighted that "digital exclusion" is not simply a generational issue (i.e., one primarily impacting the older population, who are significantly less likely to be online than younger people). Many children and young people risk the loss of opportunities and education as a result of a digital divide, especially those living in poverty (Holmes & Burgess, 2020).

another continent, edit a document with a collaborator in a different city, instant message with one's best friends, and enter virtual worlds with fellow gamers. Indeed, technology not only allows us to connect with those we already know, it releases us from the confines of our geographical locations. Online we can find "like-minded communities" no matter where we happen to be and can meet people based on shared interests rather than shared location (Ferreday, 2009; Rheingold, 2000). Technology, then, not only keeps us in contact with those we know but potentially increases the number of social connections we have.

To deny that technology has played an important role during the Covid-19 pandemic in our social worlds would be obtuse. Yet, it would be equally obtuse to not highlight the various changes to our social worlds that have arisen as we have increasingly relied on technology for our connection to others. While we might be able to log in to a live streamed gig or movie, many still miss being in a crowd dancing or at the cinema; we have all become familiar with the term "Zoom fatigue", the experience of exhaustion after spending hours on screen with others; glitches in technology can disrupt the easy flow of conversation with temporal lags and visual distortion; while we can see people on video links, we cannot make eye contact with one another; and, although attending an online memorial service might be better than having no service at all, virtual attendance does not allow us to physically comfort one another.

For those working in the phenomenology of sociality, the idea that our social encounters are altered by technological mediation may seem strikingly obvious. In such circles, the role that the body plays in interpersonal interactions is placed front and centre (Szanto & Moran, 2015). Rather than wondering how we might figure out whether other human-shaped figures have thoughts, emotions, and intentions when we cannot *see* their minds or mental states, phenomenologists argue that we do not encounter hidden minds but embodied subjects of experience (e.g., Husserl 1993; Stein, 1989; Gallagher & Zahavi, 2021). We encounter embodied others not through disembodied communication but by seeing, hearing, and touching them. Intentions and feelings are conveyed not just through words but through nonverbal means, such as through gestures, facial expressions, posture, vitality, and bodily style (Merleau-Ponty, 2012; Stern, 2010). It is as embodied subjects that we find ourselves in a shared world together, able to attend to, engage and interact with the environment around us, carry out shared tasks and actions (Gallagher, 2009; Zahavi, 2014). When we go online, aspects of our embodied interactions are altered and, in some circumstances, even constrained.

In Sect. 3, we take as our focus currently available forms of online communication and consider various ways in which our social encounters are altered when technologically mediated. In particular, we consider alterations of perceptual access, intercorporeality, shared space, transitional spaces, and self-presentation. While there is much debate about the extent to which online interactions might be described as (dis)embodied (e.g., Fuchs 2014; Dreyfus, 2008; Kozel, 2007; Smart et al., 2017; Osler, 2020, 2021; Ekdahl, 2021; Stokes, 2021), engaging in this debate is beyond the scope of this paper. Rather, we make a more modest contribution and consider how various dimensions of embodied sociality are altered by technological mediation.

3 Sociality, Embodiment, and Technological Mediation

How we experience others online depends on the platforms we use. While we might speak broadly of 'online sociality', different platforms warrant their own specific analysis. In the following, therefore, we present platform-sensitive descriptions of the structure of various online social encounters. Providing an exhaustive account of online sociality, however, is not possible within the confines of one paper. As such, by necessity, our phenomenological exploration is not a complete one and we have selected the examples we think most illustrative for each of our themes.

3.1 Perceptual Access

While email and instant messaging may only involve exchanges of written signs and symbols (Fuchs, 2014; for a contrasting view, see Osler, 2021; Kekki, 2020) and occupying a virtual world in a game may involve only being able to see a representation of the other via an avatar (Svenaeus, 2021; for a contrasting view, see Ekdahl & Ravn 2021), when we use platforms such as Zoom, Skype, and FaceTime we can *see* and *hear* others. One might point out that we do not have *direct* visual and auditory access to the other on video link but to an *image* of the other. Our screens and microphones mediate our perceptual access to the other, giving us a *representation* of the embodied subject on the other end, and what we perceive is this representation not the embodied other. Phenomenologically, though, we often experience the screens, microphones, and speakers involved as *transparent* (Lombard & Ditton, 1997; Ihde, 2002; Macpherson, 2020; Osler, 2021). Typically, when we talk to our friends on Zoom, we are directed to the person speaking and not to the screen, the pixels, or the speakers. Akin to offline encounters, this allows us to perceive the expressive behaviour of our mediated interlocutors, hear the excitement in their voice, the joy in their smile.

Even if we allow that video links give us perceptual access (or the illusion of perceptual access) to the other visually and auditorily, our perceptual access seems limited when compared to many examples of offline encounters. First, the quality of our visual and auditory access online is often inferior to physical face-to-face encounters. The resolution of the image rarely meets the quality of a physically face-to-face encounter; we experience glitches and time-lags; the sound can drop in and out. Note, though, that not all our physically co-present encounters involve us having optimal visual and auditory grasp of others: we might catch sight of someone running past us in the rain, see them in the distance, or just glance at someone as we walk by while we have headphones in. The difference, though, is that there is the *possibility* of gaining greater perceptual grip on them, for instance by moving towards them; in contrast, when we are communicating via technology our perceptual access is constrained by the quality and design of the tools we are using.

Second, the number of sensory modalities through which we can experience others is restricted online. Touch, for instance, is noticeably missing from online encounters.[7] This has obvious drawbacks for those who use touch as an important form of interpersonal access, for instance those who are visually impaired. More generally, the loss of tactile access to the other is felt in various forms of interpersonal interaction. While we might be able to see our friend's tears streaming down their face, we cannot reach out to console them, to wipe away the tears, to give them a hug, feel their despair in their shaking body. Even though they

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[7] For an interesting exploration of haptics-mediated social perception, see Froese et al., (2020).

might be visually in front of us, they remain crucially out of reach. The absence of touch can become particularly obvious in cases of acute or intense emotions, such as not being able to hug someone in celebration or hold them in their grief.

Dreyfus (2008), drawing on Levinas, argues that being physically out of touch with one another undermines our experience of really being present together. He stresses that being physically co-present is not just about gaining good perceptual access to one another but being together as embodied vulnerable subjects and that "when this sense of vulnerability is absent, our whole experience is sensed as unreal" (Dreyfus, 2008, 54; also see Dolezal 2020). Being 'out of touch' brings our real distance from the other to the fore, makes us feel the presence of the screens between us. The loss of the tactile mode, then, might not merely amount to a lost form of perceptual access but to a more fundamental transformation of how the other is experienced as being *with* us.

Olfactory experience is also missing in our online encounters. Little philosophical work has been done on the role of smell in interpersonal experience. However, Tellenbach (1981) argues that we are sensitive to the *fragrance* of others, a fragrance that does not simply convey the factual smell of someone but something of their "personality". While it is not entirely clear what Tellenbach means by personality here, we might think of ways in which the familiar smell of someone is comforting, puts us at ease, triggers various recollections. Like touch, smell is "a sense of proximity" (Tellenbach, 1981, 223), a sense that puts us in close contact with the other. Think of the role smell plays in intimacy, for instance being able to smell one's grandmother's perfume or a lover's hair. Smell, like touch, then may ground our experience of really being together with the other.[8]

Finally, while we do have visual access to the other on Zoom, the other is restricted to the box on my screen and, at least usually, we only see people from the shoulders up. While we can see facial expressions, certain bodily gestures such as hand gesticulations, and hear the other's voice, our access to the other's full body language is often constrained online. When we are presented with someone's head and shoulders, what falls out of the picture is a more holistic way of perceiving the other's embodied expressivity. Daniel Stern argues that we do not simply perceive others in terms of *what* they do but also in terms of "the manner and the style" (Stern, 2010, 4) of their expressive behaviour.[9] *How* someone moves gives us a significant amount of social understanding (Stern, 2010; Sheets-Johnstone, 2011; Krueger & Maiese, 2018). When someone walks across the room, they can do so quickly, enthusiastically, shyly, hesitantly, performatively, exuberantly, and so on. Stern describes this *way* of moving as *vitality*. When we sit relatively immobile in front of our screens this diminishes the amount we move and, consequently, limits our access to the other's vitality or style. By primarily constraining us to a rather immobile and static form of interaction, video-mediated encounters often involve a reduced holistic embodied expressivity across the participants.[10]

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[8] For fascinating research on olfactory experience, see: Richardson (2013) and Millar (2021).

[9] Merleau-Ponty (2012) also refers to the "style" of expressivity and Stein (2000) talks of "vital feelings". For a more contemporary discussion, also see Vendrell Ferran (2021).

[10] Note, though, that sitting statically in front of a screen is not a necessary feature of video links, rather it reflects current normative practices; we could imagine installing huge screens on walls that would allow for full body movement to be captured on screen, thus freeing us from the constraints of our chairs.

Current forms of technological mediation, then, alter our perceptual access to others. This does not, necessarily, undermine our ability to grasp the embodied expressivity of others entirely. However, our perception of the other is restricted to the visual and aural modes.

3.2 Intercorporeality

Our physically co-present interpersonal encounters often do not simply consist of us just perceiving others but *interacting* with them. Merleau-Ponty (2012) emphasises that our encounters with others are not embodied simply in the sense that we perceive the other as an embodied, expressive subject but that our social relations are embodied in the expressions and movements as they reciprocally unfold *between* participants. Thomas Fuchs describes the body as a "sounding board" (Fuchs, 2016, 197) that is affected by and resonates with the embodied expressivity of others (also see: Fuchs & De Jaegher 2009; Chemero, 2016; Moran, 2017; Trigg, 2013). When someone walks into a room and their oldest friend smiles at them, they do not just perceive their friend's happiness but respond to it with their own smile, their approach, their mutual embrace. Their joyful reunion is communicated in and through their *intercorporeal* interaction; through bodily synchrony and resonance, we affect and are affected by others in ways which shape and enrich our understanding of one another. Rather than talking of our physically co-present encounters as *face-to-face* interactions, it might be better to talk of *body-to-body* interactions.

How is intercorporeality impacted by technological mediation? If someone is yelling at you on Zoom, you still might recoil from your screen, open your eyes wide, gasp in surprise, and they might react in turn. On live video links, we can still be bodily affected by others and engage in a form of intercorporeal reciprocity. Nevertheless, the reduction of bodily movement, detailed above, might constrain our intercorporeal relations and social understanding by limiting our ability to achieve bodily resonance and synchrony with other another (Aagaard, 2022; Collins, 2004; Dolezal 2020). When glitches occur and the image or sound freezes, this also disrupts synchronization between someone's expression and their interlocutors' responses, further threatening smooth intercorporeality.

Notably, when there are more than two participants involved on a video call, it can also be difficult to tell the direction or orientation of someone's bodily movement and gestures online. For example, if someone waves on Zoom, it is not clear just from the gesture who they might be waving at. When on video link, the spatial orientation between bodies is lost. The interplay between participants is, therefore, impacted by the design of platforms like Zoom; leaving gestures, body language, and movement neutrally directed outwards, rather than directed to particular individuals. This impacts the broader dynamics of groups, inhibiting the subtleties conveyed not just in our movement but the directionality of our movement. This can inhibit the emergence of sub-groups and allyships in certain online spaces, for it is harder to catch someone's eye, exchange a laugh, convey a look of disappointment with a specific person in online space. The texture and undercurrents that normally characterize larger groups drop away. We might describe this as a certain "flattening" of bodily expressivity that disrupts intra-group dynamics that are typically established through intercorporeality (also see Jackson 2021).

What is altered on Zoom is the fluid bodily dynamism that constitutes many of our everyday offline interactions.[11] Indeed, things might seem even worse when we consider forms of technological mediation that do not involve live visual and auditory access to others but merely the exchange of written signs and symbols, such as email or instant messaging (Salmela & Nagatsu, 2017; for a contrasting view, see Osler, 2021). Other online platforms, though, seem more suited for supporting intercorporeality. Consider occupying virtual worlds together via avatars, such as online gaming platforms. While the participants may not be able to control the avatars with the same degree of subtly as our own expressive bodies, they can and do respond to one another's movements and actions in game, demonstrating a sensitivity and reciprocity between the "body language" of the players' avatars (Ekdahl & Ravn, 2021). Moreover, avatars can *direct* their gestures and actions towards specific individuals or groups, allowing for intra-group dynamics to emerge (e.g., being on the same team vs. facing off an opposing team). Nevertheless, while allowing that a certain degree of intercorporeality and interaffectivity might occur in avatar-mediated interactions, there seems to be a diminished granularity of expressivity and movement which is likely to inhibit the nuance of intercorporeality available in physically co-present encounters. Some might also question whether this is really a case of intercorporeality. Dreyfus (2008, 117), for instance, argues that insofar as avatars only *re*present the expressivity of their players, and insofar as this expressivity even has to be manually inputted, such cases lack the true intercorporeality that we find between bodies that are physically present together.

The tight interconnection and resonance between bodies appears harder to attain on online platforms, particularly when multiple people are present. In light of this, attempts have been made to find new and creative ways of establishing online connections. For example, think of how during a Zoom meeting with lots of participants, friends can use other online channels to establish intra-group dynamics, such as having a WhatsApp group chat going throughout the meeting with one another. By carving out a private space within a larger public one, friends can use the messages to create a sense of connection and intimacy with one another. It can also work to scaffold the orientation of on-screen expressivity; for instance, if your best friend has just sent a ridiculous message to you and you laugh, they know that the laugh is in response to and for them, and their smug smile is recognised as their own expressive bodily response. [12] New structures of co-ordination and resonance between individuals, then, may arise in online spaces that do not simply imitate off-screen forms.[13]

3.3 Shared Space

While leaps in technology now allow us to share the same temporal present online, we remain physically separated. This has led some to describe online encounters as allowing us to experience one another as "*there* and now", as opposed to the "here and now" of physi-

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[11] We might be concerned that the loss of intercorporeality degrades more than the fluid dynamism and bodily understanding of others. Guenther (2013), writing on solitary confinement, suggests that loss of intercorporeality can also disrupt our experience of self.

[12] In future research on online sociality, attention needs to be given to the simultaneous employment of multiple digital platforms used to engage with others (a practice that currently receives little academic attention). This also raises interesting questions about how we navigate public and private spheres in online spaces.

[13] For a discussion of novel forms of resonance and co-ordination between participants at online gigs, see Vandenberg et al., (2021).

cally co-present sociality (Zhao, 2006). How might sharing space shape our social encounters? Many of our social encounters do not involve us simply attending to the other and them attending to us.[14] Rather, we engage with others through our shared attention to and action in the world around us (Zahavi, 2014, 2015). Think, for instance, of going for a walk with a friend, pointing out favourite spots, a rare flower, a place connected with a shared memory. Here, we understand one another's intention, interest, and meaning not just by attending to their embodied expressions, but by following their gaze or their pointed finger to aspects of the world around us. In turn, we experience the world as salient and meaningful in light of what we are doing together (e.g., as a place to walk, to enjoy nature, and to reminisce). We experience the other not just as an embodied subject but as a situated subject in a shared world with us, attending to and acting within a shared environment; what makes the other's actions meaningful is their reference to the world in which we are both embedded (De Jaegher & Di Paolo, 2007; Gallagher, 2009; Boldsen, forthcoming).[15]

Moreover, when we share physical space, not only do we attend to the same shared environment, but we can engage in shared activities in relation to that environment. On our walk, we might not only jointly attend to our surroundings, but help one another scale a fence or pick mushrooms together. We co-ordinate our joint action not only in reference to one another's bodies, but in reference to the world in which we act and engage. Through this situated interaction, we not only experience the other's actions and intentions as meaningful, but we co-constitute meaning within a shared context (Gallagher, 2010).

Sharing a 'here' allows us to occupy a shared environment with others in which we can attend to and act in relation to the same world. We might be concerned that when we go online, we lose access to a shared physical world, thus diminishing our ability to engage in joint attention and joint action and, consequently, inhibiting our social understanding and meaningful engagement with one another. When we are texting one another, while we share a 'window' in which we can communicate, we (typically) do not have access to the one another's physical shared surroundings;[16] when we are on Zoom, while we can see part of each other's rooms and hear what is picked up by our microphones, we cannot see beyond the edges of the screen, cannot hear what is not relayed through our speakers. We do not know what our interlocutors might be looking at off screen, nor see how they are engaging with the world around them, and vice versa. While we may experience a certain degree of common space with others on video link in relation to what is visually and auditorily available to us (Aguila, 2011), much of the other's 'there' is unavailable to us. Moreover, while we might be able to see or hear aspects of the other's physical surroundings, we cannot get up and walk into them or interact with objects on their side of the screen (and vice versa). Consequently, we might experience our interlocutor as comparatively de-situated or disconnected from the world around them and around us. Our interaction becomes constrained by what we both have mutual access to, i.e., what is on our screens and what we communicate. Moreover, our ability to engage in joint action with regards to physical objects is depleted, minimizing the ways we might engage with one another online.

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[14] Schutz (1967, 170) argues that having a shared environment is essential for a face-to-face social encounter.

[15] Note that physical proximity does not alone guarantee that we share a world together. At the very least, one must recognise each other as conscious subjects (Fanon, 2008).

[16] Note that we could be texting while in the same room. This highlights that we should be careful not to presuppose a rigid binary between offline and online encounters, as these can (and often do) occur simultaneously.

Again, it would be remiss to overlook the realm of gaming here. When players log into massively multiplayer online role-playing games, while they remain in their physical surroundings, they also are able to attend to and act in the virtual environment of the game via their avatar. Players occupy a "hybrid" (Berger, 2020, 616) or "blended" (Krueger & Osler, 2019) space that spans their offline and online environments (also see Ollinaho 2018; Hardesty & Sherados, 2019). Notably, unless players are sitting in the same physical location, no two players experience the same hybrid space, as the physical environment will differ from player to player. Nevertheless, there is an overlap in the players' shared environment in the virtual game where players, via their avatars, can interact with jointly available virtual objects, and can engage in joint actions (e.g., exploring, raiding, and fighting together). This, then, seems to allow for the emergence of certain forms of joint attention and joint action to emerge in these virtual environments. While the gamers do not share physical space, we still find some shared spaces of interaction or activity (Scriven, 2018). We might also point here to instances of non-gaming shared digital space such as co-authors working in a shared Google Doc together, an audience attending to the shared slides of a presenter on Zoom, or the thread of posts under a YouTube video or a Discord chat.

3.4 Transitional Spaces

While shared spaces of activity can be created online, these spaces typically support specific forms of activity such as meetings, writing, or playing a game. We enter a Zoom room for a presentation and, once it is over, we log out again. While this may be very efficient, we miss out on important forms of informal, unstructured encounters. During the pandemic, there was much discussion about the "water cooler effect" – highlighting fortuitous and casual discussions between employees outside itemized meetings where individuals can simply enjoy each other's company. While some companies have attempted to instigate "virtual water cooler" sessions (Collins, 2020), these are still notably controlled forms of encounter. Friesen (2014) highlights that what is lost online are our "transitional spaces", our corridors, our accidental bumping into people, our shared coffee runs, what we might call the "in-between" (also see Berger 2020; for a contrasting view, see Osler & Krueger 2022). The design and use of online platforms often seem to promote "explicit action" at the expense of less regimented forms of interaction (Friesen, 2014, 22). Some, though, keep video streams open throughout the day precisely to allow for a less structured style of interaction to emerge between participants (Judge & Neustraedter, 2010).

3.5 Self-presentation

Goffman (1959) highlights that when we interact with others, we have a (usually pre-reflective) awareness of our own self-presentation; an awareness of how others see us and are responding to us (also see Dolezal 2017). When a new person enters the room, we might give them a broad smile to indicate their welcome, might broaden that smile if met with a similar grin or tone that smile down if the person looks confused. In our offline interactions, then, we have a certain self-awareness with regards our bodily expressivity, our body language, and our comportment.

Our online communications often bring our self-presentation to the fore. When we are on Zoom, we not only see the faces of our co-participants but are presented with our own

face on screen. As such, we can become hyper-aware of our self-presentation on video links, since we can monitor our own expressive demeanour as it unfolds in real time. This happens to a certain degree even when we do not have visual access to our own face, such as on instant messaging platforms like WhatsApp or Signal. Here, we cannot see our own face, but our communication is concretized in text. Unlike when we speak, our written texts are (typically) preserved in the thread, allowing us to read back what we have written, there objectifying our own communication.

Hyper-self-awareness, then, is supported by the structure of online communication platforms. While self-awareness can heighten one's attunement to others, in terms of being sensitive to how others are reacting to you and helping achieve smooth interaction, if we attend too closely to ourselves this can work to hinder the kind of intercorporeality described above. We become preoccupied with our own self-presentation at the expense of being sensitive to others. This can disrupt one's ability to immerse oneself in the conversation and result in a heighted sense of self-consciousness and discomfort. Collins (2020) also suggests that such hyper-awareness is, in itself, exhausting. Constantly looking at oneself throughout a conversation can be a "strain" and Collins sees this as a contributing factor for Zoom fatigue (also see Aagaard 2022). We might be additionally concerned that people who already experience heightened awareness of their bodies in interpersonal encounters, e.g., due to gender or race (Young, 1980; Ahmed, 2007), might be particularly vulnerable to this kind of hyper-awareness.

3.6 The Phenomenology of Online Sociality

In our analysis, we have shown how technological mediation can alter the structures of our social encounters in numerous interesting ways. By showing how mediation shapes the structure of sociality, we want to call attention to the risks of viewing online sociality as simply equivalent to offline sociality. First, treating online forms of sociality as merely equivalent to offline ones fails to do phenomenological justice to the wide range of social encounters that we can have in and across these spheres. Our social worlds are rich and complex, compiled of various *forms* and *styles* of interaction, and technologically mediated encounters warrant the same careful consideration as our physically co-present ones. Rather than treating online forms of sociality as more or less equivalent to offline ones, we advocate for a robust, platform- and user-sensitive phenomenological exploration of online sociality.[17]

Second, following from our analysis above, when our social encounters migrate online, the *embodied* dimensions of our social encounters appear to be particularly impacted. We should not, therefore, take it for granted that simply because technology allows us to communicate and interact at a distance that mediated modes of interaction are good substitutes for the physically co-present encounters that they are intended to replace. To do so underplays the role that different styles of embodiment play in structuring and guiding our social interactions. Just as there is no standard form of offline sociality there is no standard form of

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[17] Examining online sociality also reflexively highlights aspects of our offline encounters that are often taken for granted in offline sociality. For instance, in noting the perceptual constraints of online social encounters, the role perceptual modes such as touch, smell, and taste can play in social encounters are brought to the fore. From a methodological point of view, we can see online platforms not only as warranting their own phenomenological inquiry but also as a concrete tool of eidetic variation – helping us explore the features and limit cases of social encounters.

online sociality. Whether a particular style of encounter is suitable for a particular occasion depends on the context of the encounter, as well as its purpose and the needs and preferences of the people involved.

To put it another way, it seems to make a difference whether we are interacting via technological mediation or not. This challenges the idea that we should conceive of offline social encounters as simply replaceable by online ones. Whether we want to embrace the replacement of various modes of offline social encounter with digitally mediated ones, then, requires us to have a better understanding of the encounters in question.

4 Beyond Replacement

At this point, the techno-optimist might respond that, while our analysis picks up *current* alterations brought about by technological mediation, these alterations will disappear with technological advancement. Chalmers (2022) precisely argues that, as virtual reality technology improves, there is no reason to suppose that we won't be able to have full perceptual access to other people's (mediated) bodies, engage in body-to-body intercorporeal relations, share a (virtual) environment with others, and be able to walk down transitional spaces such as corridors and pavements. Indeed, one might even treat the analysis we have given above as a design guide for building technology that allows us to have digitally mediated social encounters that are indistinguishable from unmediated ones. Equivalency between offline and online social encounters, then, might be just around the proverbial corner.

Supposing that our technology does reach this stage of advancement and the embodied alterations we have outlined above no longer hold, should we then accept, or even root for, the replacement of offline sociality with online sociality? We suggest that, even allowing for the future advancement of technologies, there are reasons to be suspicious of thinking about online sociality merely in terms of *replacing* offline sociality.

4.1 Embracing Multiplicity

Baked into the term 'replacement' is the implication that we must give something up. If you replace coffee with tea, you no longer drink tea; if someone is replaced at work, the new person takes over and the old person leaves. No wonder that many are put off by the idea that technologically mediated forms of sociality might replace non-mediated ones, for it suggests that in embracing digital forms of sociality, we must do so at the expense of traditional styles of face-to-face encounter. This very framing presents the exchange as one in which we might lose something precious (e.g., Dreyfus 2008; Turkle, 2015, 2017). The question we should ask is why we should see the discussion of online sociality as a discussion about replacement at all. Why would we opt for either/or when we can have both?

Indeed, we should be particularly wary about entering into a discussion of replacement given that it seems to drive idealist visions of both mediated and non-mediated social interactions. On the side of the techno-optimists we often find idealistic promises of technology yet to be developed (e.g., Kurzweil 2005; Chalmers, 2022). As such, any argument for the success of such technology remains hypothetical. Additionally, with our sights turned to the future of digital communication, there is a risk of overlooking potential drawbacks of our current technology. On the techno-pessimist side, we see an idealization of physically

co-present interactions (e.g., Turkle 2015; Dreyfus, 2008). Those critiquing digital communication tend to present an overly rosy picture of offline sociality and fail to mention that our offline social worlds are also littered with interactions that are fleeting, superficial, even harmful.

By framing the discussion in terms of replacement, we seem to encourage broad-brush proclamations about the value of physically co-present sociality and digitally mediated sociality. To promote a more nuanced and situated discussion, we should resist buying into the binary of offline vs. online. Instead, we should see digital communication as opening up new ways that we can engage with one another *in addition to* our myriad offline social options.

4.2 Appreciating Context

In claiming that technology will advance to the point where our digitally mediated experiences will be indistinguishable from our non-mediated ones, we implicitly posit non-mediated experiences as the 'gold standard'. What this overlooks is that we do not all experience physically co-present embodied social encounters in the same way. There are many cases where someone may experience altered styles of embodied interaction as preferable.

Take Dreyfus' argument that online sociality is always inferior to offline sociality as we are not physically vulnerable to the other online (Dreyfus, 2008, 54). We might point out that Dreyfus overlooks the extent to which we remain emotionally vulnerable online (Dolezal, 2020; Ekdahl, 2021). More damningly, though, why assume that a position of physical vulnerability is desirable? What this assumption seems to ignore is the very real threat of violence, abuse, and discrimination that many people experience in the physical co-presence of others, and which can result in a complete breakdown of interpersonal understanding, recognition, and respect. In such instances, there are good reasons for preferring interactions that take place in a digitally mediated space where physical vulnerability is indeed reduced. [18]

Or consider the notion of intercorporeality. While we highlighted above the role intercorporeality can play in enhancing social understanding, it is also the case that the dynamics of intercorporeal reciprocity have a normative dimension that prescribes and shapes the style and rhythm of social interactions; how we respond and react to others "can be more or less effective, more or less adequate, appropriate, or correct given the demands of a particular situation" (Krueger, 2021, 380). Not all of us are attuned to these normative forms of intercorporeality. Autistic individuals, or people living with cerebral palsy, for example, often struggle with social attunement (Gallese & Rochat, 2018; Toro et al., 2020). This can be understood in terms of disrupted or discordant intercorporeal relations, where an individual's bodily movements are experienced as 'out of sync' with neurotypical styles of intercorporeal interaction (Krueger, 2021). Being physically co-present with others with whom intercorporeal relations do not unfold smoothly may work to negatively impact a social encounter, as well as result in experiences of anxiety and social doubt. Indeed, there is evidence that autistic communities have flourished on various online platforms (Bagatell, 2010; Pinchevski & Peters, 2016). For instance, the use of WhatsApp or online gaming platforms allows for physical bodily cues and various forms of non-verbal behaviour to be left

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[18] Here we might point to various marginalized (and often stigmatized) communities that have flourished in online spaces, such as ProAna communities (Osler & Krueger, 2021) and LGBTQIA+ communities (Fox & Ralston, 2016).

behind. This can work to alleviate an autistic individual's concern about what their physical body is doing and how it is being interpreted by others, as well as limiting what needs to be attended to regarding the other participant(s) (Benford & Standen, 2009; Antunes & Dhoest, 2021).

These examples highlight the conceptual limitations implicitly baked into the aspiration that technologically mediated social encounters become perfect replacements of non-technologically mediated ones – for this aspiration fails to consider how online social encounters might, in some cases, be desirable precisely *because* they are differently embodied to offline ones. With perfect equivalency in mind, we fail to appreciate that while alterations in embodied social encounters might be seen in terms of diminished or constrained embodiment by some, these very alterations might be experienced as more manageable or less intense forms of embodiment by others. If we aim to design technology to create a perfect replica of offline sociality, as an indistinguishable replacement, we lose sight of ways in which we can creatively design *different* ways of being together. Indeed, it is likely that such an aim results in the perpetuation of the kinds of normative standards that already dominate our offline worlds. In doing so, we curb the potential use of technology to precisely create and provide social spaces and encounters that meet the needs and desires of a multitude of subjects and groups. By rejecting the offline vs. online framework, our analysis shifts from asking whether online sociality could feasibly replace offline sociality, to asking when a particular style of sociality is more or less appropriate or fitting based on the context and the people involved.

5 Conclusions

Our increased use and reliance on technology for our social encounters during Covid-19 has driven renewed interest in the question of whether technologically mediated sociality can or should *replace* non-mediated sociality. Our analysis has highlighted that technological mediation alters the structure of our social experiences in various ways, particularly embodied dimensions of sociality. As such, we should not fall into the trap of thinking that the technologically mediated forms of social interaction currently available to us merely mirror offline styles of interaction.

However, in highlighting how dimensions of embodied social experience are altered (and in some cases seemingly inhibited) in the digital domain, we also suggest that we should not fall into a second trap — thinking that online sociality is only valuable to the extent that it can perfectly replicate and replace offline sociality. By assessing online sociality in terms of its suitability as a substitute for physically co-present encounters, we risk losing sight of, as well as impeding, creative ways for us to encounter others online. Rejecting the notion of replacement allows us to conceive of digital communication beyond substitution; pushing us to demand and design digital tools that do not simulate offline forms of interaction but support novel ways of encountering each other. To put it another way, striving to create technologically mediated social encounters that are perfect replicas of non-mediated ones seems to be the least interesting way to think about the promise of online forms of sociality.

As one reviewer highlighted, it may well be that, at least for many people in many circumstances, physically co-present face-to-face interactions remain the "gold standard" of social encounter. While interacting online during the Covid-19 pandemic is preferrable to

not interacting at all, many people have been eager to get back to their face-to-face interactions. This might suggest that online interactions are only contingently desirable, e.g., for overcoming physical distance, convenience, or complying with lockdown measures, but that they are not inherently valuable. We are more optimist that technological mediation may, at least in some cases, allow for differently embodied styles of interaction that could be valuable precisely due to their difference to the 'norm'. Note, though, that this is not an argument for transitioning to a fully technologically mediated social world. In fact, quite the contrary. We aim to acknowledge the benefits that a multiplicity of social interactions and styles might afford us. Just as we would feel constrained and encumbered by being only allowed to enact our social lives through a face-to-face dyadic conversation, so would we resist being constrained to any one form of social interaction. Nevertheless, even if one is sceptical of this position, what our analysis stresses is that this "gold standard" of face-to-face interaction should not merely be presumed but argued for (especially given the normative assumptions that typically accompany such a presupposition, as highlighted above). Even if one is inclined to think of physically co-present interactions as inherently more valuable than online ones, one of the benefits of providing a careful phenomenological exploration of technologically mediated sociality is that it helps us clarify what might be 'special' about face-to-face interactions. Such phenomenological work, then, should be of interest to the techno-optimist, the techno-pessimist, and the in-between alike.

Declarations

Conflict of Interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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