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Witnessing: Iteration and Social Change

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Introduction[1]

At first thought, iteration seems banal. It is about repeating the existing; nothing is changing. But this special issue shows that, in an era obsessed with the new, it is often the repetition of the old that creates social change. Iteration fosters persuasion. It affords opportunities for critical and creative engagement with meaning, values and knowledge. It invites collaboration, though its apparent simplicity often belies a tremendous amount of individual and collective labour involved in the practices of iteration. Through its repetition of the existing, however, iteration also can be a mechanism for reproducing the status quo. Its pervasiveness and banality naturalise power, and its mimetic qualities shrink spaces for critical distance and care.

The editors of this special issue have brought together a delightful and fascinating diversity of articles focused on iteration in cultural production in the digital age. We hop across geographies to examine lockdown diaries, artists' books, socialist memes, fake news, the design of social media platforms and artificial intelligence, activism, film, social media forum moderation, news website reader comments and more. Iterating through the collection, across its many disciplines, is a commitment to theorising through empirical evidence, to explaining with critique, and to providing pathways to praxis. These characteristics of this special issue, and the many concepts and arguments it puts forward, make this collection of work exceptionally rich material for seeing iteration and how it shapes the world we live in today, as well as the world we want it to be.

In this preface, I take a media sociology approach to show how iteration can be usefully understood as *collaborative communication for change*. I see this understanding of iteration, whose ascendancy is related to the ascendancy of computer science, as baked into

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the form of communication technologies – and thus as shaping the kinds of iteration that are possible when we use these technologies. This understanding also prompts us to focus on the connection between iteration and social change. To explore how this works, I analytically slow down the practice of iteration to show that it is a communication practice of transmission. That transmission practice is itself constituted of cognate communication practices – the reception, evaluation and production of knowledge – in which visibility and persuasion are key. In the latter parts of the preface, I illustrate this through the example of witnessing as iteration, as the high-stakes nature of witnessing make it a canary in the coalmine, more generally, for mediated communication in the digital age. I show how breaking the witnessing practice down into its various parts allows us to see how power enters and inflects who and what are iterated, when – and who and what *are not*. Thinking critically with iteration and against unequal power relations, the praxis this preface suggests is one – much in line with the rest of this special issue – of explaining how iteration might move the grassroots towards their goals.

Iteration and social change

According to its Latin roots, iteration means repetition. With the rise of computational culture, however, the common knowledge definition of iteration means more than this (Zimmer 2010). Within an algorithm, iteration can mean a step that repeats until a condition is achieved (BBC n.d.). Within design, for hardware or software or otherwise, an iterative process is about refinement – small, collaborative, improving adjustments – towards a desired result. In other words, iteration is a 'trial-and-error methodology' (Martins 2021). An iteration is a version of something that implies it is on a trajectory of change, symptomatic of 'beta culture' in that everything can be improved, and we all can play a part in this improvement (Jarvis 2009). Pulling together these manifestations from computer science, we can understand iteration as collaborative change towards a purpose.

Flipping around the usual design principle of 'form follows function', we can think about how the form of this understanding has functions. We know that with digital communication platforms, function frequently follows form; this is the whole premise of the concept of technological affordances (Kelly 2020). What does it mean to practice iteration on platforms where this understanding of iteration is built into their architecture – indeed, is the very process by which these platforms come to be and evolve? Thinking about this makes us focus on transmission practices, possibilities and problems, which make up the relatively neglected dimension of the production-transmission-reception communication chain. Yet a focus on transmission, which has manifested in the literature as medium theory and mediatization studies, can be extremely revelatory – from Innis' (2007) argument about the connection between the dominant communication medium of a society and that society's distribution of knowledge and thus power, to Thompson's (2020, 4) statement that 'the use of communication media involves the *creation* of *new* forms of action and interaction, *new* kinds of social relationships and *new* ways of relating to others and to oneself'. Though earlier studies of digital platforms tended to focus on production and reception, the field has become much more focused on how transmission structures, from norms to affordances, influence what is iterated, like quantified memories on social media platforms or racism on search engines (Jacobsen and Beer 2021; Noble 2018).

Remembering the computational origins of this understanding of iteration reminds us to keep the interplay between communication and the technologies that mediate it squarely in the frame of analysis. Refracting this understanding through a media sociology lens leads to a working definition of iteration: *collaborative communication for change*.

A key function of this definition of iteration is reminding us of the connections between the practices of iteration and social change. Following Foster and Zhang (2022), iteration may be a non-partisan – i.e. non-Political – lens for understanding the world, but it *is* political. Who is (and isn't) iterated, on what and how, matters. Communication is about power, specifically symbolic power, and so iteration or its absence are about endowing others with symbolic power or about preventing them from exercising it in the pursuit of their aims. This symbolic power may be linked to persuasion – a relational term, as persuasion is always directed at someone about something. This is because, as Foster (2022) points out, iteration, as in the repetitive promotional posts that pepper our social media feeds, can be a route to persuasion. But iteration can have other purposes, including harming or helping those who are the targets or the subjects of the iteration. As such, focusing on iteration reveals inequality, and it also reveals care.

Let's unpack this a bit more – and it needs unpacking. Iteration may be persuasion, but iteration also needs persuasion. Returning to the production-transmission-reception model of mediated communication, one of the benefits of focusing on transmission reveals that it is a mini communication site of its own, underpinned by persuasion. It is also a site of the production of knowledge, both through the knowledge's repetition and through the changes to content and interpretation arising from iteration from one context to another. As Hollanek (2020) points out, production of knowledge practices can be black boxes for many reasons, including streamlining for the sake of efficiency, but also – as Smith-Johnson's (2020) piece makes clear – because they are learned from being an insider to a group.

Iteration as transmission starts with the reception of information or, even before that, with persuasion to receive information. This necessitates the information's visibility. Upon reception, the transmitter, whether human or machine, undertakes analysis to decide whether or not to transmit the information, a decision that may be influenced by persuasion emanating from the information's content, context and source as well as the transmission technology. The last stage of transmission is really a production of information stage, as information is transformed by its iteration. Even when the decision is not to transmit, this can be an intervention in the production of knowledge caused by an absence, a dead end, a vacuum. Putting iteration into slow motion to see these composite parts allows us to observe where and how power and care inflect iteration, as examined next in the case study of witnessing as iteration.

Witnessing as iteration

Conceptually, the connection between iteration and social change, based on an understanding of iteration as collaborative communication for change, makes sense. But how does it work in practice, (for) whom does it work in practice – and does it work in practice? Drawing on my decade of praxis research at the intersection of human rights

reporting and technology, I will explore these questions using the case of witnessing. In line with the approach in Foster and Zhang's (2022) introduction and Foster's (2022) analysis of true and false news, examining witnessing not with respect to what is witnessed but with respect to witnessing as a 'social practice' helps us understand how, for whom, why, and with what consequences it happens – or doesn't happen.

Digitally-mediated witnessing is, after Peters (2001), seeing something and then showing something. In other words, witnessing is iteration (Martínez García 2020). Witnessing is a production of knowledge practice with strong links to evidence and histories; it produces a networked archive of testimonies that, like all archives, is necessarily selective in the face of finite resources (Ganley 2020; Sheridan and Foster 2022; Thrall, Stecula, and Sweet 2014). It is also part of the terrain of information politics dominated by what Human Rights Watch (2022) and others call the 'naming and shaming' methodology: making accusations of human rights violations based on well-substantiated evidence that impel the shamed and thus ashamed perpetrator to rectify the situation. But the means of witnessing can also be an end, as paying attention and showing someone they are being seen and heard as they wish to be is valuable in itself as an act of solidarity and care. As we shall see, however, these simple formulas are much more complex and uncertain when applied, and not only are witnessing practices intertwined with justice, shame, inequality and care but also with networks of amateurs, professionals, publics, institutions and technologies.

Indeed, the mediation of witnessing through new communication technologies is intensifying, in part because the smartphones in our pockets means that we are potential witnesses all of the time (Frosh and Pinchevski 2014). These technologies are blending the previously distinct seeing and showing stages of witnessing iteration – for example, with livestreaming, we can now see and show simultaneously (Gregory 2015). In these cases, witnessing undergoes a process of mediatization, in which the practice of seeing changes in anticipation of mediation, so that, for the eyewitness, it is as much about being there in that moment as it is about being transmitted across time and space (Mortensen 2015). As Gray (2019) and Mortensen (2015) explain, new communication technologies have also made witnessing a more collaborative, collective process than it traditionally was. The traditional model usually involved an individual witness speaking to an institution, often at the institution's request. Peer-to-peer technologies, however, can afford witnessing to groundswell through publics working together to gain visibility for their evidence. In this context – and as Hrudka (2020) points out with respect to unequal visibilities on Facebook – the question for the witness is less, 'Should I show something?' and more, 'Will I be seen?'

Indeed, visibility is the first link connecting the eyewitness and the mediated witness, or the present witness with the future witness as, in order for something to be iterated, it must first gain attention. Given the proliferation of visibility technologies, as well as their rewards and risks, struggles around mediated visibility are a defining feature of technology-saturated societies (Thompson 2020). The symbolic power of mediated visibility is an increasingly prevalent pathway to counter-power, and it has afforded individuals and collectives benefits such as solidarity, consciousness-raising, gatekeeper-bypassing, skills-sharing, the presentation of counternarratives, opportunities for reflexivity, access to publics, and security – whether arising from swapping stories and advice or through

collectively calling out abuses (Bowles Eagle 2015; Mendes, Ringrose, and Keller 2018; Penney 2015; Richardson 2020).

That said, mediated visibility causes a lot of heartache and hazard as well, particularly when its intended iteration fizzles out or spirals out of control. We can draw on Benjamin's (2019) work to understand that visibility is not always the unqualified good that it is imagined to be in many technology projects. On the one hand, we see that the flip side of visibility is invisibility, which is the state of being 'hidden' or 'imperceptible' (Thompson 2005, 35). 'Hidden' implies an intention to stay out of view. This may not be out of an aversion to visibility per se, but rather because histories of surveillance and repression, as experienced by racialised minorities in the United States, for example, force people to navigate under the radar (Browne 2015). In these cases, witnessing stops before it even starts (Richardson 2020). 'Imperceptible', another state of invisibility, indicates a failed attempt at visibility – a lack of attention gained, which tends to map onto a lack of power.

On the other hand, and contrary to the adage of 'any publicity is good publicity', we see that there are such things as too much visibility and bad visibility – and these are also experienced unequally. Benjamin (2019, 101) calls the first 'hypervisibility', which is to be visible against one's intentions; it is to be seen by those whom you don't want to see you, usually with deleterious consequences – like 'exposure' and 'enclosure'. The second is being seen but not 'decoded', using Hall's (2006) terminology, in the way you were trying to 'encode' your visibility. It is what Benjamin (2019, 102) calls 'detection' without 'recognition'. Detection without recognition is in the accusations of traitorhood against Fang Fang for her Wuhan lockdown diary and in the vitriol digitally directed at young women activists from the Global South (Martínez García 2020; Yang 2020). These malevolent visibilities can fuel iteration, which in turn can fuel their malevolence.

Of course, technology also weaves through these dynamics of visibility, and we need to pay attention to what Ananny (2015) calls the materiality of witnessing. Particular affordances of technology can reward certain kinds of witnesses and testimonies with visibility over others, like the verified social media veteran versus the new user – or like abuses more rather than less easily captured in images, such as attacks against protestors in public places versus sexual assaults behind closed doors (Koenig and Egan 2021). The vagaries of algorithm-fuelled virality can spur a hypervisibility that witnesses did not anticipate, creating security risks for which they are not prepared. It is for this reason that institutional witnesses at human rights NGOs have pushed technology companies to introduce features to obscure the visibility of witnesses, like YouTube's face-blurring feature (Ristovska 2016). The mediation of communication technologies also exacerbates the potential for detection without recognition through reducing or altering cues for interpretation encoded in the testimony (Thompson 2020). For witnesses who are trying to be iterated, then, the pursuit of visibility is a gauntlet of inequalities and risks. For those who are seen, however, iteration is not a fait accompli, as the next step is one of persuasion.

When testimony moves from one witness to another in a witnessing chain, the latter must decide whether or not to iterate it. As Zhang's (2020) article clearly shows, using the example of socialist memes in China, there is no pre-determined iteration outcome – in

contrast to the long-debunked hypodermic syringe model of media effects that persists in the public imagination (Chakravartty and Roy 2017). In peer-to-peer witnessing, there are as many ways of making this iteration judgement as there are epistemologies, emotions, ethics and end goals. For professional witnesses, however, the judgment narrows, as truth-claims institutions like human rights NGOs and news outlets must hew to an evidentiary epistemology (McPherson 2015). As witnessing is a communication about something unknown, it traverses an 'epistemological gap' that must be bridged through verification tactics and tools (Peters 2001, 710). These help institutional witnesses answer the orthodox questions: Who, what, when, where and why?

Like Smith-Johnson's (2020) human administrators of gender identity support groups on Facebook, institutional witnesses are committed to supporting those on whose behalf they work, to working with reflexivity and collaboration, as well as to providing a significant amount of labour, which is often invisible – particularly when the labour involves deciding *not* to iterate information. Some of those screened out have been exposed as fakers, but others are screened out, often to professional witnesses' chagrin, because their information is simply not high enough quality to meet their institutions' verification standards. With respect to artists' books, Ganley (2020) critically engages in the idea of a hierarchy of images, ranked according to the their technologically-enabled resolutions. We can see a similar hierarchy in witness testimony: in the context of limited resources and of iteration prerogatives that, as Blackwell (2022) points out, engage with the concept of profit, witness testimony that is 'cheaper' to verify may better move along the witnessing chain. Witnesses who know how to save institutional witnesses time and effort – if not directly money – by providing verification subsidies (like metadata) stand a better chance of getting iterated (McPherson 2016). This is 'strategic witnessing', shaped to the priorities and logics of change-maker institutions (Ristovska 2016). How would the amateur witness ever have a grasp of this cultural capital, if they are not already in the knowledge production business? We can see how the black box of professional verification, designed for safeguarding the credibility of witnessing projects, inadvertently creates inequalities that influence iteration at the persuasion stage as well. This exemplifies the irony that Hollanek (2020) identifies in design decisions related to the production of knowledge: 'We must acknowledge that any problem solved now will also form a trap for those coming after us'.

As Chouliaraki (2015) points out, there is much more to decisions about iteration in witnessing than verification, as emotions and ethics play a role as well. When a mediated witness is compelled to action – whether that action is iteration or something else – this is because what they have seen generates affect and responsibility (Kyriakidou 2015). Ananny (2015) uses Silverstone's concept of 'proper distance' when discussing 'moral witnessing'; this is when we are close enough to detect and recognise but far enough away to see our relative privilege, in terms of resources and security, and thus feel a moral imperative to do something. The content, source and context of the testimony can influence a range of moral engagements beyond responsibility, from politicisation to detachment to reflection to shame (Chouliaraki 2015; Kyriakidou 2015; Ong 2015). So can the technologies of transmission, a phenomenon Nash (2018) calls the 'moral affordances' of technology. Ananny (2015, 95), for example, speculates that mediated witnesses watching events filmed through Google Glass eyewear may engage with empathy because the video is 'first-person, eye-level'. On the other hand, Nash (2018) wonders if the immersive qualities of witnessing

via virtual reality headsets bring us too close to suffering; we feel we are there but can do nothing, and so we self-protectively disengage.

And so, just as the practices and inequalities of iteration can harm eyewitnesses, they can also harm mediated witnesses. In another example, the increasingly mimetic qualities of communication technologies exacerbate the potential for vicarious trauma among institutional witnesses whose job it is to watch and analyse video after video of atrocities (Dubberley, Griffin, and Mert Bal 2015). Technologists are paying attention to this problem; they are developing ways to prescreen and blur violent acts and thus are designing caring technologies. These heighten the 'friction' that Foster (2022) references in digital witnessing iteration, working against the flow and hyperreality that are holy grails of technology companies. This friction of slowing down machines so that humans can take care of each other and collaborate in their efforts to interpret and connect can be a significant, though overlooked, source of solidarity (Powell 2021). And, as Wood (2021) points out with respect to art, the more mimetic communication technologies get, the less critical distance there is to use them for a comparison to reflect on life and the world. The faster they move, the less time we have to pause and contemplate. We can see that the iteration zeitgeist built into the dominant information and communication technologies is shrinking opportunities for critique and opportunities for care.

Iteration failure

Sometimes witnessing works – its iteration achieves its aim – and sometimes it fails. Exploring iteration failure is another transparency exercise that can expose the workings of power. Through shedding light on the black box of iteration, it can also be revelatory for those iterating towards social change.

One source of witnessing failure is the waning effectiveness of the 'naming and shaming' methodology, as seen when it produces the unintended effects of denial, diversion, anger or simply 'strategic ignorance' (McGoey 2019; Snyder 2020). We have seen these responses to accusations in recent years among political leaders around the world, in both authoritarian and democratic regimes. In these cases, iteration does not reach its aims as its end targets do not value the witnesses, their testimonies or the values on which these are based. For example, widespread resistance exists to what Hopgood (2013, 19) calls the 'Human Rights empire' (capital H, capital R) on the grounds of sovereignty. In other cases, witnessing intermediaries may use the testimonies to their own ends rather than those of people reporting from the ground. Madianou (2019, 4) proposes that we understand the datafication of humanitarian practices through the lens of technocolonialism, in which 'beneficiaries produce value through data practices which is then extracted for the benefit of the various stakeholders'. For example, corporations that offer technological solutions to the big data problems of human rights and humanitarianism may be doing so for the primary purpose of public relations rather than to help eyewitnesses achieve their aims.

In addition to iteration failure when the end targets are impervious or intermediary witnesses are diversionary, iteration can fail when it struggles to gain traction. While this may be due to inequalities around visibility and persuasion, it also may be because the testimony is subject to significant counterattacks that leave potential witnesses frozen in a

fog of information – which Curtis calls the 'hypernormalisation' effect (2016). An example of this at the time of writing is the Russian-backed, fake fact-checking channels on messaging app Telegram. These channels mirror the verification practices of open source investigation, like geolocation with satellite images, used by mainstream fact-checking institutions. However, the Telegram channels deploy these trappings to do the opposite of their counterparts; rather than attempting to prove digital evidence coming out of Ukraine, they attempt to cast doubt on these evidentiary claims. As Journalist Kevin Nguyen, who researched this phenomenon, said: 'When doubt flourishes, you become reluctant to even sympathize' (Estrin, O'Connor, and Fox 2022).

In computer design, iteration can fail when it gets stuck in an infinite loop. In witnessing, this is when witnessing begets visibility begets persuasion begets witnessing begets visibility begets persuasion begets more witnessing…. This might happen because the steam of witnessing is circulating around and around in an echo chamber of supporters; we know, for example, that fake news and its debunking tend to travel in essentially non-overlapping social media circles (Bounegru et al. 2017). This might also happen because of how the norm of individualism built into platforms, as Hrudka (2020) points out, shapes witnessing towards the individual rather than the collective, towards the bad apple rather than the systemic problem. Individual cases might get justice, but the systemic problem persists, and so the witnessing must continue (Zarkov and Davis 2018).

Alternatively, iteration might fail because it is too difficult to sustain. Iteration of suffering causes pain, and iteration of accusations causes retaliations. Although the witnessing of Ahmaud Arbery's racially-motivated murder through its circulation online was deemed by many to be a successful case of iteration, given that the perpetrators were arrested days after the video went viral, many others questioned the cost of this method. They lamented the vicarious trauma and re-traumatization that occurred, particularly among Black communities in the United States, as a result of watching the video. Criticised in the mix was the default autoplay feature on social media, which meant that many of those who encountered the devastating video while browsing through their feeds were forced to see at least its beginning; they did not have a chance to press pause before it started playing (Evelyn 2020). In terms of retaliations against witnesses, combatting or ignoring these requires labour, including emotional labour, in addition to all the effort of gaining and maintaining visibility (Mendes, Ringrose, and Keller 2018). Sometimes it is all too much.

Other times, potential witnesses refuse to iterate not because of the source and content of the testimony but because of the medium in question. As Wood (2021) explains, strategic resistance to the digital and preference for analogue technologies can be the manifestation of a 'critique [of] the underlying capitalistic logic'. Refusal can be a political – indeed, a democratic – act that allows for 'self-creation and self-determination' in the face of technologies that exacerbate marginalisation (Gangadharan 2020, 7). Refusal can also be about a recognition of the collateral damage of the digital iteration process – from the exploitative labour conditions around the production and disposal of the digital devices it depends on, to the environmental consequences of the infrastructure that supports its transmission and storage, to the trauma that it engenders among those who must work on content moderation at tremendous pace (Agarwal and Wankhade 2006; Chan, Pun, and

Selden 2013; Gabrys 2011; Roberts 2016). These problematics can create tremendous dilemmas for those pursuing social change, in which they must weigh visibility against corresponding compromises of their values. All told, however, iteration remains a major pathway to social change, and one of the most accessible and well-travelled for social change from the grassroots – if it gains purchase.

Supporting iteration for social change

As much as this special issue uncovers how iteration and social change in the digital age work, its processes remain mysterious to many. As a recent study of a representative sample of the Norwegian population found, 61 percent have no or low understanding of how algorithms influence the visibility of digital content (Gran, Booth, and Bucher 2021). Even for seasoned SEO and social media operatives, digital visibility puzzles, in part because of the proprietary obscurity of algorithms. The entire visibility gambit has a 'lucky break' feeling to it. As Adorno and Horkheimer (1979) argue, waiting and hoping eternally for a lucky break, instead of acting for social change, is a sure-fire way to perpetuate the status quo.

Exploring the practices of iteration can therefore be a critical practice itself of connecting knowledge production with systemic inequalities, and an urgent one since critical scholarship tends to lag technological development (Hollanek 2020; Stead 2022). As scholars critiquing with care, however, we must move beyond the condemnation of power relations towards pointing out pathways to a better future (Puig de la Bellacasa 2011). One such pathway is user education projects, as Foster and Zhang (2022) point out – though we also must approach these projects critically and reflexively. This is because media literacy endeavours can exist just as lip service, can deflect responsibility away from states and corporations and towards individuals and can impose dominant epistemological and moral registers on others (boyd 2018; Gill 2012; Livingstone 2018). I propose a complementary approach to the education project proposed by the special issue co-editors; in addition to digital literacy projects addressing problematic iteration, we need projects that address a lack of iteration as problematic.

The age-old media story is that it is the powers that be that dominate the public realm; where once they excluded the grassroots, they now eclipse them. So, digital literacy projects that support iteration as a pathway to social change should create opportunities for amateur witnesses to understand how digital visibility and institutional persuasion work – like the 'How to Make Videos for Change' series produced by human rights organization WITNESS (n.d.). At the same time, these strategies should make clear that the epistemological, emotional and stylistic registers that meet technological and institutional logics are but some of many. In other words, these strategies should take the drip-drip-drip of 'epistemicide' seriously and should proactively counteract this threat (Santos 2014). For example, in the 'Social Life of Data'[2] game we developed at The Whistle project, an academic start-up I lead, the user plays as a piece of data moving through different contexts, gaining different interpretations along the way. The game explores the

[2] Jamie Hancock was the lead developer of this project, which is available at http://sociallifeofdata.org.

verification practices of journalistic and human rights institutions while also making clear that these are but one way of knowing.

Approaching the problematic of inequality in witnessing from the other direction, another strategy is to create verification subsidies that make it easier for professional witnesses to iterate the testimony of amateur witnesses. In the early stages of the Covid-19 pandemic, human rights fact-finders suddenly found themselves in lockdown; the only information from the field they could collect was digital – a type of evidence with which many were unfamiliar. At The Whistle, we worked in collaboration with the Office of the United Nations High Commissioner for Human Rights to develop the Digital Human Rights Toolkit[3], which quickly and clearly introduces human rights fact-finders to a range of digital tools they can use to help verify digital civilian witness data.

Conclusion

Much as, at first glance, iteration is about maintaining the status quo, this special issue shows us that iteration, as collaborative communication towards a purpose, is a significant pathway into understanding and practicing social change. As critical scholars, we should be examining how iteration is intersecting with power and care in particular empirical cases and how these dynamics might travel towards a better future. Breaking iteration down into its composite communication practices, including the pursuits of visibility and persuasion, helps us see how power inflects these cases, as well as how we might exercise care in supporting moves towards more egalitarian situations. In addition to this kind of work, we scholars should also be considering iteration at another level of abstraction – namely, not just the dynamics around particular instances of iteration, but struggles over iteration itself (Thompson 2020).

For example, we can understand the contemporary culture wars as, in part, a struggle over iteration. One side is arguing that they are unjustly losing opportunities for iteration because of cancel culture and no-platforming. The other side argues that many in society have had unjust opportunities for iteration due to their positionalities, and that people and institutions need not facilitate iteration of that which they find harmful. The lens of iteration here is a forest instead of a trees approach that allows us to connect the culture wars with other phenomena of social change. For example, we can see that, in the culture wars, the circumscription of iteration is enacted mostly through ad hoc defensive manoeuvres. This is an arguably weaker strategy than setting the rules of the game, whether through algorithmic or verification structures, as we saw in witnessing – and this difference no doubt reflects the respective power relations at play in these two cases.

In addition to the empirical utility of seeing communication-related current events through the lens of struggles over iteration, this approach has regulatory utility. It provides a fresh was of looking at intractable problems, like online harms, that have predominantly been addressed through the lens of regulating content at the moment of production. For example, the recent freedom of expression online inquiry at the House of Lords, for which I

[3] Lisa Klaassen was the lead developer of this project, which is available at http://thewhistle.soc.srcf.net/the-human-rights-digital-toolkit/.

was special adviser, recommended that social media platforms and third parties continue to expand the range of tools users have to control the content of their timeline – tools that block the iteration of harmful content according to each user's definition of harm (Communications and Digital Committee 2021). This is not a perfect solution to online harms, given the labour it requires of users – and particularly of minoritized users who are disproportionately targeted online. Still, this policy focus on users regulating iteration rather than platforms regulating production sidesteps the problematic idea of commercial censorship, in which tech companies decide, globally, what can be expressed.

Given the ever-escalating competition for the attention economy in the digital age, we are sure to see new developments in iteration technologies, practices and struggles. This special issue has set an agenda for keeping our focus on this phenomenon and has provided argumentative and conceptual tools for doing so. In my final point, I wish to zoom out to one more level of abstraction, a meta one after Browne's (2015) connection between the study of surveillance and studies as surveillance. After all, what are scholars doing but iteration, engaged in collaborative communication in the pursuit of knowledge and normative goals?

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