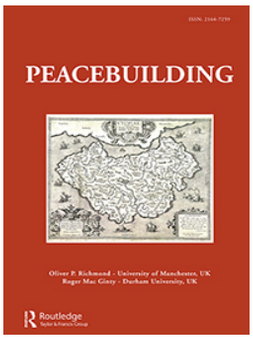

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Building a peace we don't know? The power of subjunctive technologies in digital peacebuilding

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ABSTRACT

Much attention has been paid to how digital technologies affect peacebuilding through the production of information, data and evidence. While research has thus documented how digital technologies enable a *sincere* peacebuilding approach concerned with the hurtful past and present and how the world 'really' is, digital technologies can also play a role in enabling a *subjunctive* sensitivity for future worlds that 'could' or 'should' be. The article explores how in peacebuilding, subjunctivity is produced through performative uses of digital technology that are primarily non-discursive and non-cognitive. Documenting examples from practitioners engaged *inter alia* in mediation, dialogues, peacekeeping, and ceasefire monitoring, the article introduces a compilation of subjunctive affordances and demonstrates their powerful effects: shepherding conflict stakeholders along the process, detaching them from hurtful content, reframing their perspectives on the world and envisioning possible futures, as well as unlocking existing social structures and evoking new ones through digital communitas.

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The past decades have been characterised by the growing impact of digitalisation on efforts to build peace. Conflict parties and stakeholders now commonly use digital information and communication technologies (ICTs) to further their agendas, and so do organisations with peacebuilding and conflict prevention mandates. For the United Nations (UN), for instance, 'Big Data' and 'New Technologies' have become 'frontline issues'.[1] The role of digital technologies has also received growing attention from peacebuilding scholars, who have discussed their uses in peace processes, peacebuilding, peacekeeping and conflict prevention.[2] Some have struck cautiously

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[1]Martin Wählisch, 'Big Data, New Technologies, and Sustainable Peace: Challenges and Opportunities for the UN', *Journal of Peacebuilding & Development* 15, no. 1 (2020): 122–26.

[2]Daniel Stauffacher et al., *Peacebuilding in the Information Age: Sifting Hype from Reality* (Geneva, Switzerland: ICT4Peace Foundation, January 2011); Kristin Bergtora Sandvik et al., 'Humanitarian Technology: A Critical Research Agenda', *International Review of the Red Cross* 96, no. 893 (March 2014): 219–42; John Karlsrud, 'Peacekeeping 4.0: Harnessing the Potential of Big Data, Social Media, and Cyber Technologies', in *Cyberspace and International Relations*, ed. Jan-Frederik Kremer and Benedikt Müller (Berlin, Heidelberg, Germany: Springer, 2014), 141–60; Jennifer R. Welch, Susan Halford, and Mark Weal, 'Information and Communication Technologies (ICTs) and Peacebuilding: A Conceptual Framework', in *Proceedings of the ACM Web Science Conference*, WebSci '15 (Oxford, United Kingdom: Association for Computing Machinery, 2015), 1–9; Ioannis Tellidis and Stefanie Kappler, 'Information and Communication Technologies in Peacebuilding: Implications, Opportunities and Challenges', *Cooperation and Conflict* 51, no. 1 (March 2016): 75–93; and Oliver P. Richmond and Ioannis Tellidis, 'Analogue Crisis, Digital Renewal? Current Dilemmas of Peacebuilding', *Globalisations* 17, no. 6 (17 August 2020): 935–52.

optimistic tones, by pointing to the potential of digital technologies for opening up new opportunities for participation and inclusion,[3] facilitating 'localised' and 'networked', or 'relational' approaches,[4] or enhancing 'critical agency across networks and scales'.[5] Others have warned against the adverse effects of digitalisation on peacebuilding, for instance, through the aggravation of political and economic inequalities,[6] the potential of technology to enable 'extractive', 'top-down' approaches,[7] or its inability to change 'offline' power relations.[8]

Importantly, the existing literature on the role of digital technologies in peacebuilding has primarily focused on aspects of information and communication. Given the I and C in the term ICT, this is little surprising: the term was first popularised in the development literature, where it was *inter alia* associated with new opportunities to gather data, process information and build knowledge.[9] Therefore, a 'digital technology' often used interchangeably with 'digital ICT', is commonly understood as 'an entity that processes or communicates digital data'.[10] Unsurprisingly, in the field of peacebuilding the exploration of digital technologies has since its early days been occupied with their potential to shape information flows and knowledge-making processes.[11] Today, digital technologies are widely discussed in terms of their potential to enable data- and evidence-driven approaches to support informed decision- and policymaking, as well as planning and implementation.[12]

This indicates that technologies for peacebuilding have first and foremost been viewed in terms of their role in producing and sharing knowledge and information about the world. Therefore, research in this emerging field has approached digital technologies primarily as vehicles to engage with the world in a *sincere* mode. Sincerity has been described as an attitude to the world that is occupied with creating a clear understanding of the world as it 'really is',[13] and with privileging the search for intent and meaning over action.[14] It stands in the trajectory of the enlightenment project and a Cartesian approach to science, by aiming to create a correspondence between mental models and the outside

[3]Helena Puig Larrauri and Anne Kahl, 'Technology for Peacebuilding', *Stability: International Journal of Security and Development* 2, no. 3 (22 November 2013): Art. 61; and Andreas T. Hirblinger, 'Digital Inclusion in Mediated Peace Processes: How Technology Can Enhance Participation', Peaceworks (Washington, D.C: United States Institute of Peace, 29 September 2020).

[4]David Chandler, 'A World without Causation: Big Data and the Coming of Age of Posthumanism', *Millennium: Journal of International Studies* 43, no. 3 (2015): 833–51; Tellidis and Kappler, 'Information and Communication Technologies in Peacebuilding'; and David Chandler, 'Intervention and Statebuilding Beyond the Human: From the "Black Box" to the "Great Outdoors"', *Journal of Intervention and Statebuilding* 12 (2018): 1–18.

[5]Richmond and Tellidis, 'Analogue Crisis, Digital Renewal?'.

[6]Mark Duffield, 'The Resilience of the Ruins: Towards a Critique of Digital Humanitarianism', *Resilience* 4, no. 3 (1 September 2016): 147–65.

[7]Helena Puig Larrauri and Yeonju Jung, 'Reimagining Peacebuilding Through Innovation Stockholm Forum on Peace and Development. Conference Report.', Session Report (Stockholm: Stockholm Forum on Peace and Development, May 2017).

[8]Richmond and Tellidis, 'Analogue Crisis, Digital Renewal?'.

[9]Richard Heeks, *Information and Communication Technology for Development (ICT4D)*, Routledge Perspectives on Development (New York, NY: Routledge, 2018), 6–8.

[10]Heeks, *Information and Communication Technology for Development (ICT4D)*, 9.

[11]Sanjana Hattotuwa, *Untying the Gordian Knot: ICT for Conflict Transformation and Peacebuilding* (Geneva, Switzerland: ICT4Peace Foundation, June 2004).

[12]Wählisch, 'Big Data, New Technologies, and Sustainable Peace.'

[13]Adam B. Seligman et al., eds., *Ritual and Its Consequences: An Essay on the Limits of Sincerity* (Oxford, United Kingdom; New York, NY: Oxford University Press, 2008), 8–9.

[14]Adam B. Seligman, 'Secularism and the Problem of Sincerity: A New Approach to Ritual', *Interdisciplinary Journal for Religion and Transformation in Contemporary Society* 1, no. 1 (17 December 2015): 13.

world.[15] Sincerity can be located in various social practices, ranging from religious fundamentalist thought, to the search for individual authenticity or empiricist science. This means that the sincere attitude contained in many efforts to build peace has diverse origins. Yet, in contemporary peacebuilding, sincere approaches are often closely related to the technocratisation of the field, for instance, where practitioners plan interventions based on linear theories of change,[16] or use large amounts of data to demonstrate impact.[17] Today, the sincere often manifests itself in the drive towards data and evidence-based approaches that aim to produce information as precise as possible about the world *as is*.

Peacebuilding, however, is more often than not characterised by limitations to know anything with certainty. In conflict-affected contexts this world is often messy and ambiguous and reliable information is difficult to come by.[18] This may explain why a considerable strand in peacebuilding discourse and practice focuses on worlds that could be or will be – worlds that must be invoked, imagined and built rather than ascertained. Instead of focusing in a sincere manner on the world *as is*, these approaches engage with worlds that *could* be. For instance, John Paul Lederach points to the 'moral imagination', which he deems necessary for peacebuilding, described as 'the capacity to imagine something rooted in the challenges of the real world yet capable of giving birth to that which does not yet exist'.[19] This requires perceiving the world differently by looking beneath a 'visible reality'.[20] Such a way of relating to the world can be described as 'subjunctive'. More commonly known as a grammatical form, the subjunctive has been described as 'relating to or denoting a mood of verbs expressing what is imagined or wished or possible'.[21] However, subjunctive modes or attitudes have also been studied in a body of literature focused on the role of spiritual and secular practices in maintaining social orders and enabling social change.[22] In language-based practices and beyond, the subjunctive gains its quality first through its distinction from the sincere: from not being occupied with the truth that aims to capture the past and present world *as is*, and from its invocation of something possible or desirable, which often lies in the future.

Humans naturally oscillate between sincere and subjunctive attitudes towards the world. While modernisation and its technological advancements have led to a reduction of such subjunctive attitudes that are enabled through religious and traditional practices,[23] the subjunctive continues to play a constitutive role in contemporary politics and society. It is enabled in practices ranging from electoral cycles that re-create an

[15]Seligman et al., *Ritual and Its Consequences*.
[16]Emery Brusset, Cedric de Coning, and Bryn Hughes, eds., *Complexity Thinking for Peacebuilding Practice and Evaluation* (London, United Kingdom: Palgrave Macmillan UK, 2016), 2.
[17]Roger Mac Ginty, 'Routine Peace: Technocracy and Peacebuilding', *Cooperation and Conflict* 47, no. 3 (1 September 2012): 298.
[18]Suda Perera, 'To Boldly Know: Knowledge, Peacekeeping and Remote Data Gathering in Conflict-Affected States', *International Peacekeeping* 24, no. 5 (20 October 2017): 803–22.
[19]John Paul Lederach, *The Moral Imagination: The Art and Soul of Building Peace* (New York, NY: Oxford University Press, 2005), 29.
[20]John Paul Lederach, *The Moral Imagination: The Art and Soul of Building Peace* (New York, NY: Oxford University Press, 2005), 27.
[21]Angus Stevenson, ed., *Oxford Dictionary of English*, Third Edition (Oxford: Oxford University Press, 2010).
[22]Adam B. Seligman, 'Ritual, the Self, and Sincerity', *Social Research* 76, no. 4 (2009): 1073–96; Adam B. Seligman, 'Ritual and Sincerity: Certitude and the Other', *Philosophy & Social Criticism* 36, no. 1 (2009): 9–39; and Seligman et al., *Ritual and Its Consequences*.
[23]Seligman, 'Ritual and Sincerity', 28.

imaginary of political order,[24] to the routinised practices of apparently defunct international institutions, which help maintain a sense that things could be otherwise,[25] to the rituals of humanitarian assistance that rebuild social cohesion.[26] In all these cases, subjunctive practices enable 'as if worlds' that have powerful effects on those who are engaged in it. However, the role of the subjunctive in digital peacebuilding – and the role of digital technology in enabling it – has so far not been explored.

Therefore, this article sheds light on the subjunctive affordances of digital technologies in peacebuilding, i.e. the intended and unintended uses of technology that enable a subjunctive mode. To this end, the article takes a socio-technical perspective on peacebuilding, which goes beyond a focus on digital tools (such as software and hardware), by asking about their interplay with social practices through which these tools are designed, used and represented.[27] I argue that the digitalisation of peacebuilding had led to an undue focus on the sincere, in terms of the research, study and practical application of digital technology. In contrast, approaches to and theories of conventional 'offline' peacebuilding have long emphasised the non-sincere aspects of building peace, expressed through knowledge and practices that enable the progression towards possible futures. Building on this intellectual trajectory, the article draws attention to the subjunctive affordances of technology, and their role in enabling users to move on from the past and the present. I point to subjunctive affordances of technology as a source of power that shapes the dynamics of peace processes and the social relations that emerge from them.

The article is structured as follows. I will first summarise the most important conceptual and methodological considerations that underpin my argument, particularly pertaining to the power of technology affordances in offering sincere and subjunctive framings that shape our relationship to the world, and how these may be studied through empirical research. After that, I will discuss the predominance of sincerity in the emerging discourse and practice on digital peacebuilding, before outlining the merits and possible role of the subjunctive in digital peacebuilding practices. The article will then describe the powerful effects of four major subjunctive affordances of technology in peacebuilding, namely, their utility in maintaining the process, detaching users from past and present experiences, envisioning possible worlds, and initiating a change in relationships. The conclusion points to critical questions for a research agenda on subjunctive peacebuilding technologies.

Conceptual and methodological considerations

The emerging research on digital peacebuilding has often focused on technologies as specific tools, such as drones, social media platforms or crowdsourcing applications. However, an analysis of power relations in digital peacebuilding requires us to move beyond this 'tool' perspective and to shed light on the entanglements of software and hardware with social practices in which agency emerges.[28] One fruitful way to do so is via

[24]Seligman et al., *Ritual and Its Consequences*, 11.
[25]Tobias Kelly, 'Two Cheers for Ritual: The UN Committee Against Torture', *Humanity: An International Journal of Human Rights, Humanitarianism, and Development* 9, no. 1 (15 March 2018): 93–105.
[26]Paul Richards, 'Ritual Dynamics in Humanitarian Assistance', *Disasters* 34, no. 2 (2010): 138–46.
[27]For a detailed exploration of a socio-technical perspective on peacebuilding, see Andreas T. Hirblinger, 'Digital Peacebuilding: A Framework for Critical-Reflexive Engagement', *International Studies Perspectives*, ekac015, (2022).
[28]Marijn Hoijtink and Matthias Leese, eds., *Technology and Agency in International Relations, Emerging Technologies, Ethics and International Affairs* (London, United Kingdom; New York, NY: Routledge Taylor & Francis Group, 2019).

the study of technology affordances. Jennifer Welch and colleagues suggest that research should examine the 'performative unfolding of the affordances of ICTs and their emergent properties in peacebuilding contexts'.[29] Affordances of technology render available different uses, thus determining 'the possibilities they offer for action'.[30] This entails the intended uses of technology but importantly also the unintended effects of its use – some of them may be designed, others may be the result of creative adaption, and others may only become apparent after a technology has been employed.[31] Comparably much has been written about the affordances that digital technologies and particularly social media provide to large tech companies and governments, for instance, in terms of new forms of economic exploitation and political manipulation.[32] In contrast, this article focuses on the opportunities of use that digital technologies afford to those who aim to build peace, by shedding light on how digital technologies support or enable individual peacebuilding practices. Thus, when discussing the subjunctive affordances of digital technologies, this article does not exclusively focus on digital technologies as tools with specific functionalities – but on the interplay of these tools with social practices. Indeed, as will be highlighted, subjunctivity may even emerge when peacebuilding practitioners decide to not use a certain digital tool or artefact.

While the research on the use of digital technologies has shown interest in scrutinising the power relations that emerge from digitalisation and its effects on peace and conflict, it is worthwhile to discuss in greater detail how power is exercised by technology affordances. Technology hardly ever exercises power on its own – but it does so in constellations that distribute agency between humans and machines.[33] More importantly, when technology *affords* something to humans, it also shapes their relationship with – and being in – the world. This existential role of technology is well captured by Martin Heidegger's notion of 'enframing' in his reflections on modern technologies: as technologies 'enframe' the world, the world 'reveals' itself to us in a particular way and not in another, while this destines 'being'.[34] With Heidegger, we should think of technology affordances as more than what enables humans to *do* something with the help of technology, as shaping being in the world on a more fundamental and existential level. These enframings are powerful because they put us in a mode or attitude that makes us do certain things and not others, thus contributing to the 'conduct of conduct', to speak with Michel Foucault, in often rather indirect and tactic ways.[35] Yet, the notion of

[28]Marijn Hoijtink and Matthias Leese, eds., *Technology and Agency in International Relations, Emerging Technologies, Ethics and International Affairs* (London, United Kingdom; New York, NY: Routledge Taylor & Francis Group, 2019).
[29]Welch, Halford, and Weal, 'Information and Communication Technologies (ICTs) and Peacebuilding,' 5.
[30]Ian Hutchby, 'Technologies, Texts and Affordances', *Sociology* 35, no. 2 (1 May 2001): 441–56.
[31]Grainne Conole and Martin Dyke, 'What Are the Affordances of Information and Communication Technologies?', *ALT-J* 12, no. 2 (1 June 2004): 113–24; and Daniel Halpern and Jennifer Gibbs, 'Social Media As a Catalyst for Online Deliberation? Exploring the Affordances of Facebook and YouTube for Political Expression', *Computers in Human Behaviour* 29, no. 3 (May 2013): 1159–68.
[32]Richmond and Tellidis, 'Analogue Crisis, Digital Renewal?'; Shoshana Zuboff, 'Big Other: Surveillance Capitalism and the Prospects of an Information Civilization', *Journal of Information Technology* 30, no. 1 (1 March 2015): 75–89.
[33]Werner Rammert, 'Distributed Agency and Advanced Technology: Or: How to Analyze Constellations of Collective Inter-Agency', in *Agency without Actors? New Approaches to Collective Action*, ed. Jan-Hendrik Passoth, Birgit Peuker, and Michael Schillmeier (London, United Kingdom; New York, NY: Routledge Taylor & Francis Group, 2012); and Andreas T. Hirblinger, 'When Mediators Need Machines (and Vice Versa): Towards a Research Agenda on Hybrid Peacemaking Intelligence', *International Negotiation* 22 (25 January 2022): 1–32.
[34]Martin Heidegger, *The Question Concerning Technology, and Other Essays* (New York, NY: Garland Pub, 1977), 21–26.
[35]Michel Foucault, 'The Subject and Power', in *Michel Foucault, beyond Structuralism and Hermeneutics*, ed. Hubert L. Dreyfus, Paul Rabinow, and Michel Foucault (Chicago, IL: University of Chicago Press, 1983), 208–28.

enframing may put undue emphasis on the agency of specific technological tools. That said, I suggest understanding technology affordances not as pre-determined by technology design but rather as a product of a performative process that entails both humans and machines. These technology affordances enframe peacebuilding, as they influence how those who use technology for peacebuilding relate to it. With this in mind, the research presented in this article aims to point to the distinctly subjunctive character of some digital technology affordances and explores their powerful role. It goes without saying that subjunctive affordances may also be observed for non-digital technologies – including such utilised in education, architecture, and music,[36] – and that these may likewise have a powerful role to play in peacebuilding. However, to engage with these affordances in this article would mean to miss the objective – namely to demonstrate that digital approaches – while commonly obsessed with data, information, and evidence, may yield power in non-sincere ways.

The article is the result of an exercise in theorising that aimed to be both innovative and critical. It develops the notion of subjunctive technology affordances, to highlight how they can be a source of power that enables those who aim to build peace to move on from a hurtful and intractable past and present. This research has been conducted in cognisance of the predominantly negative impact of internet infrastructures on societies affected by conflict, including digital divides due to unequal connectivity, polarisation and discrimination due to algorithmic filters and bias, or increased capacities for surveillance and control. While these global and structural aspects undeniably shape peacebuilding dynamics, this article presents a user-centred view on the role of digital technologies in peacebuilding, taking a close look at the individual, everyday practices of peacebuilding professionals that often employ digital technology in cognisance of its limits and possibly powerful effects.

This article aims to engage with digital peacebuilding in an abductive manner, i.e. by using theory in ways that cast doubt and abandon conventional views and beliefs, and by collecting empirical insights that help form new ones. Theorising, in this understanding, does not have the function of creating certainty, as is usually the case in positivist social science. Rather, its aim is to serve as a tool that helps us question our views on the world and open up to new ones.[37] My aim is not to use theory in a generalising manner or to make reductionist claims about the necessary and sufficient conditions for subjunctivity to occur. It is to 'merely' demonstrate that the concept of subjunctivity and subjunctive technology affordances have an explanatory value, in that they help to understand specific aspects of the relations of power that shape digital peacebuilding. In that sense, I understand theory as a device that enables a structured exploration and discussion of new research perspectives, while acknowledging that all theorising will remain incomplete, as the causal workings of our world not only are complex, multifaceted and context-dependent but also the result of situated interpretation. Rather than laying out a neat conceptual framework that can be verified or falsified, abduction aim involves 'informed guessing' that opens new perspectives on the world, by making us curious about 'minor perceptions' that ask for new unifying ideas.[38] Many of these minor perceptions are related to the fact that digital

[36]Seligman et al., *Ritual and Its Consequences*.
[37]Jo Reichertz, 'Induction, Deduction, Abduction', in *The SAGE Handbook of Qualitative Data Analysis*, ed. Uwe Flick (London, United Kingdom: SAGE Publications, Inc., 2014), 126.
[38]Reichertz, 'Induction, Deduction, Abduction', 127.

technologies are not always used to simply obtain more or better information (i.e. facts, data, evidence) about the past and present world, but in ways that enable an engagement with future and possible worlds. The article thus demonstrates the shortcomings of predominant conceptions of what digital technologies for peacebuilding are and what they do, and suggests we broaden our view by engaging with their subjunctive potential.

The article reflects on the uses of technology by staff working for organisations involved in conflict prevention, peace mediation and dialogue efforts, security arrangement and agreement monitoring, as well as post-conflict peacebuilding and reconciliation, as they utilise, tweak and sometimes develop digital technologies in their attempt to help peace processes move on. It does not provide single case studies of subjunctive technology affordances but provides a first and exploratory discussion based on a diversity of empirical illustrations. This material has been collected through qualitative research with peacebuilding professionals designing and utilising digital technologies in support of their work. This involved participatory observation, many informal conversations, 23 formal interviews, and a three-week online course with 48 participants. Invitations to participate in the research were shared via the author's social networks via emails and social media. The insights presented in this article are thus the result of situated research, with many participants linked to, employed and/or trained in the Global North. However, as much as possible, I attempted to obtain a diversity of views by assuring representation across genders, regional origin, types of organisation and professional seniority. The research participants included staff from international organisations, international and national civil society organisations, as well as independent experts, working in peacebuilding contexts in the Americas, Europe, the Middle East, Africa, Central, South and Southeast Asia, as well as Oceania. While this composition allowed to explore and illustrate the use of subjunctive affordance across a diverse spectrum of peacebuilding professionals and contexts, I do not claim that the results of this research do justice to the views of each single participant or are globally representative. Follow-up research should indeed shed additional light on global disparities and differences, for instance through in-depth case studies.

Sincerity in digital peacebuilding

Armed conflicts are commonly the result of antagonistic relationships pervaded by the sincere. Depictions of the 'Other' and narratives about the causes of conflict rely on claims that the world *is* in a particular way and not in *another*. Conflict parties are often organised and mobilised based on ideologies that rest on sincere notions of difference and purity, expressed in extremist or fundamentalist views that underpin many religious, sectarian, ethnic or national formations that enter into conflict with one another. These movements engage in the making of boundaries between them and others that are portrayed to be of an immanent and transcendent nature – and thus as something that is perceived to be universally true.[39] Of course, ideologies may differ in their degree of rigidity, and they may also have subjunctive aspects, for instance, when they describe a vision of, or preferences for, an ideal-type society or political system that has yet to be

[39]Seligman et al., *Ritual and Its Consequences*, 122–3.

realised – and such competing visions may likewise fuel armed conflict.[40] Armed conflict can thus arguably be fuelled by both sincere and subjunctive attitudes.

More importantly, the increasing digitalisation of social and political life has produced new practices that produce sincere attitudes that often exacerbate conflict. Today, antagonisms are further catalysed by an algorithmically mediated global internet infrastructure, and online narratives that contain dis- and misinformation strengthen hardened views about the Other. Social media plays a particular role in entrapping those in conflict – and those who aim to resolve it – into the sincere mode. The determination of 'fake news' as a potential threat to peace and security, for instance, has led to increased efforts to draw a clear line between what *is* and what is *not*, by differentiating between false and factual information.[41] However, efforts to counter misinformation and disinformation with 'correct' or 'reliable' information all take place within the sincere mode, with mixed results when it comes to moving internet users out of the dynamics of conflict. This may be because rather than engaging in discussions over weather 'this' or 'that' is true or right, peacebuilding often requires subjunctive work that engages conflict parties not only at the level of knowing, but in ways that enabling imagining and moving towards alternative ways of being.

However, as a field of research and practice, peacebuilding has also been strongly influenced by a sincere mode, and particularly, a desire to know conflict-affected contexts and plan and implement peacebuilding measures based on such knowledge. This pertains to how peacebuilding is designed and implemented in managerial and technocratic ways, and how digital technologies are mobilised to overcome an ever-increasing desire to know. The early 'liberal' peacebuilding approaches relied on notions of linear causality, steeped in a policy discourse that provided pre-given answers about both the causes of conflict and options for its resolution.[42] As Charles Hunt puts in relation to police reforms, 'the assumption behind linear modelling is that the phenomena under assessment are characterised by order, certainty, and 'knowability".[43] More recently, linear thinking has been challenged by a call for embracing the complexity of conflicts and increased precaution about our ability to analyse the systems in which conflicts unfold.[44] Nonetheless, while complexity approaches recognise the role played by uncertainty on an ontological level, they continue to be driven by an epistemic interest in the world *as is*, for instance, in the gathering of sufficient amounts of information that could inform 'adaptive' approaches.[45] As peacebuilders grapple with complexity, the sales pitch of data- and evidence-based approaches has been well encapsulated by John Karlsrud's observation that 'potentially useful information is everywhere'.[46] Data- and evidence-

[40]Jonathan Leader Maynard, 'Ideology and Armed Conflict', *Journal of Peace Research* 56, no. 5 (1 September 2019): 637, https://doi.org/10.1177/0022343319826629.
[41]Sahana Udupa et al., 'Hate Speech, Information Disorder, and Conflict' (New York, NY: Social Science Research Council, April 6, 2020).
[42]Bryn Hughes, 'Thawing Ceteris Paribus: The Move to a Complex Systems Lens', in *Complexity Thinking for Peacebuilding Practice and Evaluation*, ed. Emery Brusset, Cedric De Coning, and Bryn W. Hughes (London, United Kingdom: Palgrave MacMillan, 2016).
[43]Charles T. Hunt, 'Avoiding Perplexity: Complexity-Oriented Monitoring and Evaluation for UN Peace Operations', in *Complexity Thinking for Peacebuilding Practice and Evaluation*, ed. Emery Brusset, Cedric de Coning, and Bryn Hughes (London, United Kingdom: Palgrave Macmillan UK, 2016), 83.
[44]Cedric De Coning, 'Implications of Complexity for Peacebuilding Policies and Practices', in *Complexity Thinking for Peacebuilding Practice and Evaluation*, ed. Emery Brusset, Cedric De Coning, and Bryn W. Hughes (London, United Kingdom: Palgrave MacMillan, 2016), 27.
[45]De Coning, 'Implications of Complexity for Peacebuilding Policies and Practices', 42.
[46]Karlsrud, 'Peacekeeping 4.0'.

based practices are driven partly by technological innovations in the fields of Big Data, machine learning (ML) and remote sensing, but they are also the effect of a revived conviction in technology's capability to unearth complex causal relationships and reflexive forms of knowledge.[47] In fact, an abundance of data may lead to heightened sincerity, as it promises a move away from theory-led peacebuilding towards inductive approaches that unearth correlations between phenomena at the micro-level.[48]

The sincere mode – and its limits – also underpin the use of technology in many practical peacebuilding efforts. Overall, the existing literature on digital peacebuilding has mainly been concerned with affordances that enable cognitive processes, such as gathering, sharing, and storing information and knowledge about the world. For instance, some of the early applications of data-driven technologies were conflict early warning systems, operating with models meant to assess the likelihood of conflict outbreak. However, such systems often fail to prevent conflict because of the politics involved in acting on the data.[49] Sincerity also grounds civil society-owned early warning systems that crowdsource information, such as the open-source software application Ushahidi, which collects 'testimonies' of all sorts of 'crisis relevant data'.[50] Moreover, UN peace operations now commonly use data-driven solutions, including for surveillance and reconnaissance. For instance, drones and satellite images are meant to 'dramatically improve information gathering capacities' to increase the protection of civilians, document human rights abuses and keep track of potential spoilers.[51] Technology may also improve real-time awareness and response through social media analytics,[52] or enable predictive analytics to reduce risks and inform decision-making based on surveillance and intelligence data.[53] Moreover, meditators increasingly use digital technologies, for instance, to analyse conflict parties' and stakeholders' needs and views, enhance inclusion and communicate effectively.[54] It is important to note that academic research is deeply entwined with such efforts, for example through the establishment of conflict databases,[55] as well as a lively research-practice exchange about new methods, including those driven by ML and Big Data, that could inform international peacebuilding and conflict prevention efforts.[56]

Interestingly, many critical reflections on the digitalisation of peacebuilding are also formulated within a sincere framework, by engaging in discussion about the merits and

[46]Karlsrud, 'Peacekeeping 4.0'.
[47]Chandler, 'A World without Causation'.
[48]Noam Levin, Saleem Ali, and David Crandall, 'Utilizing Remote Sensing and Big Data to Quantify Conflict Intensity: The Arab Spring as a Case Study', *Applied Geography* 94, no. 2 (2018): 1–17.
[49]Herbert Wulf and Tobias Debiel, 'Systemic Disconnects: Why Regional Organizations Fail to Use Early Warning and Response Mechanisms', *Global Governance: A Review of Multilateralism and International Organizations* 16, no. 4 (19 December 2010): 525–47.
[50]Ushahidi, 'Introducing CrisisNET', 9 June 2014, https://www.ushahidi.com/about/blog/introducing-crisisnet.
[51]John Karlsrud and Frederik Rosén, 'In the Eye of the Beholder? UN and the Use of Drones to Protect Civilians', *Stability: International Journal of Security and Development* 2, no. 2 (21 June 2013): 1–10.
[52]Karlsrud, 'Peacekeeping 4.0.'
[53]Allard Duursma and John Karlsrud, 'Predictive Peacekeeping: Strengthening Predictive Analysis in UN Peace Operations', *Stability: International Journal of Security and Development* 8, no. 1 (13 February 2019): 1–19.
[54]Joëlle Jenny et al., 'Peacemaking and New Technologies: Dilemmas & Options for Mediators', Mediation Practice Series (Centre for Humanitarian Dialogue, 2018); Hirblinger, 'Digital Inclusion in Mediated Peace Processes'.
[55]Kristine Eck, 'In Data We Trust? A Comparison of UCDP GED and ACLED Conflict Events Datasets', *Cooperation and Conflict* 47, no. 1 (1 March 2012): 124–41; and Christine Bell and Sanja Badanjak, 'Introducing PA-X: A New Peace Agreement Database and Dataset', *Journal of Peace Research* 56, no. 3 (1 May 2019): 452–66.
[56]Branka Panic, 'Data for Peacebuilding and Prevention. The State of Play and the Path to Creating a Community of Practice' (New York, NY: NYU Center on International Cooperation, 2020).

limits of data and information and their effects on the world *as is*. For instance, some scholars flag the apparent bureaucratic pathologies that result from the increased use of technology and availability of data, arguing that much of the data produced does not necessarily lead to action.[57] Others showcase how technologies reproduce power relations, for instance, by enabling ignorance towards certain realities,[58] criticise the prevalence of 'top-down' over 'bottom-up' data practices,[59] or point to the inequalities in the access to data and the capacities required to use the information.[60] While 'digital divides',[61] 'tech-colonialism',[62] and digital remote governance[63] most certainly also shape dynamics of peacebuilding,[64] it is yet to be studied how technology is employed in powerful ways that not only shape the world that is, but also by enabling the imagination of possible, future worlds.

Overall, sincerity is written into these perspectives in a double sense: firstly, in viewing technology primarily as a generator of data and information that 'reveal' how the world really is, and secondly, by focusing on the 'real' effects of technology on power relations. This may lead us to conclude that there is some kind of 'grammar' built into technologies that enables the sincere, well encapsulated in David Chandler's claim that digitalisation constrains 'the possibilities for politics' by 'reducing governance to an ongoing and technical process of adaptation, accepting the world as it is'.[65] Yet, while digital technologies often encourage an engagement with the 'real' world, the predominance of sincere enframings should be understood as a path-dependent result of digitalisation and its incipient practices of digital peacebuilding, rather than an unavoidable outcome.

Subjunctivity in digital peacebuilding

Yet, the power of peacebuilding does not primarily or solely lie in establishing facts or finding definite answers, but in enabling societies to live peacefully despite continued ambiguities and disagreements. This is well encapsulated in the idea of peace processes as continued unsettlement, introduced by Christine Bell and Jan Pospisil.[66] For instance, to enable conflict stakeholders to move on, many agreements include intentional and unintentional blind spots that may brush over unresolved issues.[67] Yet, such subjunctive

[57]Chandler, 'A World without Causation'; Róisín Read, Bertrand Taithe, and Roger Mac Ginty, 'Data Hubris? Humanitarian Information Systems and the Mirage of Technology', *Third World Quarterly* 37, no. 8 (2 August 2016): 1314–31.
[58]Jutta Bakonyi, 'Seeing Like Bureaucracies: Rearranging Knowledge and Ignorance in Somalia', *International Political Sociology* 12, no. 3 (1 September 2018): 256–73.
[59]Ioannis Tellidis, 'Technology and Peace', in *The Palgrave Encyclopaedia of Peace and Conflict Studies*, ed. Oliver P. Richmond and Gezim Visoka (London, United Kingdom: Palgrave Macmillan, 2020).
[60]Helena Puig Larrauri and Yeonju Jung, 'Reimaging Peacebuilding Through Innovaton', *Stockholm Forum on Peace and Development* (Stockholm, Sweden: SIPRI, 2017).
[61]Arlene Bailey and Ojelanki Ngwenyama, 'Community Mediation through ICTs: Seeking to Bridge Digital and Community Divides', *The Journal of Community Informatics* 12, no. 1 (27 March 2016): 69–89.
[62]Mirca Madianou, 'Technocolonialism: Digital Innovation and Data Practices in the Humanitarian Response to Refugee Crises', *Social Media + Society* 5, no. 3 (1 April 2019): 1–13.
[63]Duffield, 'The Resilience of the Ruins'.
[64]There now exists a lively debate and growing scholarly corpus on the negative effects of internet and platform infrastructures on society, some of which has been taken up by existing peacebuilding research. This article focuses on the individual practices of peacebuilding actor, as they navigate and use these infrastructures.
[65]Chandler, 'A World without Causation', 2015, 9.
[66]Christine Bell and Jan Pospisil, 'Navigating Inclusion in Transitions from Conflict: The Formalised Political Unsettlement', *Journal of International Development* 29, no. 5 (2017): 576–93.
[67]Nadav Morag, 'Unambiguous Ambiguity: The Opacity of the Oslo Peace Process', *Israel Affairs* 6, no. 3–4 (2000): 200–220; and James Dingley, 'Constructive Ambiguity and the Peace Process in Northern Ireland', *Low Intensity Conflict & Law Enforcement* 13, no. 1 (2005): 1–23.

techniques play a largely unacknowledged role in the maintenance of peace processes. Indeed, in politics, generally speaking, sincere practices are commonly characterised by a subjunctive undercurrent. As Jasanoff and Hilton Simmet argue, facts about the world as is can be understood as 'vehicles through which societies imagine their collective futures'.[68]

> The act of extracting any single reality from the welter of possibilities [...] can be seen in effect as a moment of coproduction [...], in which a commitment to seeing the world in a particular way (how things are) gets coupled to commitments to particular norms and values (how things ought to be).[69]

Yet, how things ought to be is very much up for debate in peace processes. While evidence or data may provide insights into conflict causes and dynamics (how things are), identifying options for conflict resolution (how things ought to be) – and implementing them – is often far less straightforward. Therefore, we may want to ask if and how technologies can enable possible worlds – and possible politics – through distinctly subjunctive affordances. While the practical and scholarly preoccupation with information, data and evidence has left this potential of technology unscrutinised, turning our attention towards it is pivotal, if we want to better understand the role of technology in moving peace processes forward – and shed light on the power relations that characterise these dynamics.

Research in other fields suggests that the subjunctive can be an enabler of temporary order amid fragmentation, polarisation and disagreements. While it does not create new definite answers, it playfully operates between what *is* and what *should* or *could be*, through practices that establish temporary order and invoke possible worlds. On an individual level, the subjunctive 'ceaselessly builds a world that, for brief moments, creates pockets of order, pockets of joy, pockets of inspiration', as Adam Seligman and colleagues have suggested.[70] On a social level, it may involve the 'the endless work of building, refining, and rebuilding webs of relationships in an otherwise fragmented world' (Ibid.). At times, the subjunctive may also encourage copying with uncertainty by enabling a critical distance from apparent truths, and helping to endure an unsettling reality. It is actualised through performative techniques that create momentary commitments to the process, ignorant of the situation and its outcomes. It unveils itself in expressions and practices and is housed in staged events and institutionalised routines. When conflict parties sign agreements and shake hands after complicated negotiations, they express a wish to end the conflict. However, grievances and conflict causes are yet to be resolved during a lengthy implementation process. As peacebuilding efforts are increasingly digitalised, we may wonder if and how such offline rituals become supplemented through digital peacebuilding practices.

As I will demonstrate in the remainder of this article, technology may afford subjunctive modes that invite the user to move away from the world *as is* and towards worlds that *could*, *should* or *will* be. These affordances may be intended and built into the design

[67]Nadav Morag, 'Unambiguous Ambiguity: The Opacity of the Oslo Peace Process', *Israel Affairs* 6, no. 3–4 (2000): 200–220; and James Dingley, 'Constructive Ambiguity and the Peace Process in Northern Ireland', *Low Intensity Conflict & Law Enforcement* 13, no. 1 (2005): 1–23.
[68]Sheila Jasanoff and Hilton R. Simmet, 'No Funeral Bells: Public Reason in a "Post-Truth" Age', *Social Studies of Science* 7, no. 5 (16 October 2017): 751–70.
[69]Jasanoff and Simmet, 'No Funeral Bells', 754.
[70]Seligman et al., *Ritual and Its Consequences*, 180.

of a given technology, but they may also be the result of creative adaption and the intentional or unintentional result of how the technology is used. I will demonstrate that in peacebuilding, the enframing of possible future worlds through subjunctive affordances is a source of power: those who design and use the technologies will open the path towards some possible worlds but not others. In the remainder of this article, this source of power will be explored through a discussion of four subjunctive affordances, which were conceived in interviews and focus group discussions with peacebuilding practitioners. This process also demonstrated that while peacebuilding practitioners do not necessarily think about their technology uses as enabling the subjunctive, or would not call it that particular way, their work often requires, and at times benefits from, the subjunctive affordances of technology.

Exploring the subjunctive affordances of technologies for peacebuilding

In the everyday use of technologies, the subjunctive often manifests itself in tacit and unacknowledged ways. Therefore, naming and theorising subjunctive affordances constitutes an important first step in the effort towards understanding their powerful effects on peacebuilding. I suggest thinking of subjunctive affordances of technology in terms of a complementary sequence that enables a *rite of passage*, which guides a subject's transformation from the past and present towards a possible future. In his study of ritual practices, Victor Turner argued that rites enable the travel of objects from established social structures through a liminal state towards a new structure.[71] This linear notion of change and transformation was likely a result of some modernist undercurrents in Turner's thinking. Yet, digitalisation breaks with linearity: the digital ecosystems of late modernity enable an individualised, pick-and-choose experience, in which users autonomously shape their digital practice in co-dependence with what is supplied by the technology market. Therefore, subjunctive affordances assert their power through the piecemeal and contingent assemblages of technical devices and practices that emerge around the individual uses of technology. Nonetheless, the sequenced model of a rite of passage helps to make sense of the complementary role of individual technology affordances in the transitional practices that underpin peacebuilding. It demonstrates how subjunctive affordances of technology help maintain the process, enable a detachment from the hurtful past and present, facilitate the envisioning of possible worlds, and invite to transform established social structures. The affordances discussed below neither constitute an exhaustive list nor do they usually appear in a fixed sequence (unless somebody would intentionally design it). However, in combination, they can all be thought of as contributing to rites of passage.

We should also briefly discuss the relationship between subjunctivity, liminality and power. It is vital to note that not all liminal experiences lead to social change. Liminality itself enables a change in the liminal object, but this does not mean that society as such undergoes a change process. To make sense of this paradox, Turner differentiated between 'liminal phenomena' and 'liminoid phenomena'. While the former are part of and stabilise existing social processes, the latter develop at the margins of existing

[71]Victor Turner, 'Variations on a Theme of Liminality', in *Secular Ritual*, ed. Sally Falk Moore and Barbara G. Myerhoff (Assen, Netherlands: Van Gorcum, 1977), 36–52.

processes, are fragmentary, experimental and often subversive of existing structures, posing radical critiques and proposing alternative utopian models.[72] Rites of passage can thus both stabilise existing social structures and their inscribed power relationsor enable the transition into new ones. Going with and beyond Turner's reflections on liminal versus liminoid processes, the remainder of the article will point to the powerful role of subjunctive affordances in the digital practices of peacebuilding. It suggests that the digitalisation of peacebuilding may give rise to fragmented, stitched-together arrangements of various subjunctive technology affordances that, when employed, each form part of the power struggle over possible futures.

Digital shepherding: maintaining the process

In its most simple expression, subjunctivity may simply enable us to move on. It can help keep peacebuilding efforts on track, by establishing a sense of progress and perseverance. Such subjunctive practices are conventionally thought of as being guided by external forces that provide a holding frame for the concerns, hurdles, inconsistencies, lulls or ruptures experienced by those who partake in change processes. This frame is usually thought of as being enacted through formal rituals, led by an authority figure, such as a spiritual or political leader, who holds the process and helps the participants get through it despite the uncertainty and uneasiness it might bring at an individual level. These masters of ceremony shepherd the liminal objects along the process, providing orientation and reminders, and enforcing rules or procedures. However, rituals can also be improvised and leaderless, emerging through the practice itself.[73] In such a case, the order that stabilises change processes may, for instance, be established through regular and repetitive practice that creates a sense of stability and progress. As Seligman puts it, such 'performance simply and elegantly side-tracks the problem of understanding to allow for the existence of order without requiring a complete understanding of it'.[74] Concurrently, in peace processes, digital tools increasingly support such shepherding functions by creating a holding frame for processes, allowing those involved in them to *act as if* they are committed to peace, despite a limited sense or agreement about what to do.

To begin with, technology may enforce the commitment to a process through a panopticon effect, which makes liminal objects behave as if their actions are under constant scrutiny. This is most clearly visible in the context of peacekeeping monitoring and observation missions, where preventing a recurrence of violence requires the enforcement of often fragile ceasefires or peace agreements. Such efforts do not solely rely on the ability of monitors to effectively collect data. As Ryan Gist has argued in his study of monitoring missions, 'it is not simply the reporting of facts that is important', rather, amongst other things, the 'act of observation itself, often has direct impact within an area of ongoing violence'.[75] The use of digital technologies, such as cameras, audio recorders

[72]Turner, 'Variations on a Theme of Liminality', 44–45.
[73]Lisa Schirch, 'Ritual, Religion, and Peacebuilding', in *The Oxford Handbook of Religion, Conflict, and Peacebuilding*, ed. Atalia Omer, R. Scott Appleby, and David Little (Oxford, United Kingdom: Oxford University Press, 2015), 516–19.
[74]Adam B. Seligman, 'Secularism and the Problem of Sincerity: A New Approach to Ritual', *Interdisciplinary Journal for Religion and Transformation in Contemporary Society* 1, no. 1 (2015): 12.
[75]Ryan Grist, 'More than Eunuchs at the Orgy: Observation and Monitoring Reconsidered', *International Peacekeeping* 8, no. 3 (1 September 2001): 64.

and satellite internet devices, can contribute to the impression that monitors are 'getting into their [the conflict parties'] faces'.[76] Such technologies are thus operated similarly to a panopticon: those who are exposed to it do not know with certainty that they are being observed. The collected data matters less than the *possibility* of data being collected and its potential consequences. While the panopticon has conventionally been thought of as being enforced by an external authority, digital technologies also provide opportunities for users to increase their own self-discipline and self-restraint.[77] When used for the surveillance of ceasefires or other aspects of a peace agreement, digital technologies thus support the power of the momentary order established by an accord against the parochial interests of the conflict parties who may want to see it break down.

Technology can also help keep processes on track by encouraging continued and regular engagement despite possible ruptures that characterise conflict-affected contexts. An example is virtual platforms that enable continued connectivity and provide a space for peacebuilding activities free from the disruptions caused by the offline world, with the exception of possible access issues resulting from infrastructure damage, internet shutdowns or blackouts. Messaging groups, online meeting applications or more sophisticated exchange platforms support conflict stakeholders to continue their engagement across geographical barriers and conflict lines and despite security threats that would make physical encounters more difficult. For instance, one community-based peacebuilding professional from Zimbabwe described how video conferencing creates 'holding spaces', which enable processes that would otherwise have ended to continue online. This allowed the participant to programme across 'geographical horizons' and to engage with peacebuilders in various 'war-torn countries' to which physical travel would be impossible for her.[78] While rather basic, the capacity of digital technologies to connect users independently from their physical location thus enables the maintenance of peacebuilding efforts in spite of geographical, financial or political hurdles that would otherwise stand in their way. Online meeting platforms and video calls also allow more frequent interactions and serve as a stopgap when travelling is not possible, as was highlighted during the COVID-19 pandemic. This suggests that regular, ritualised exchanges may help to stabilise peace processes and drive violence down, even if they do not necessarily lead to their political resolution.[79]

Technology also enables repetitive practices, which strengthens the conflict parties' adherence to an ongoing peace process. Offline activities, such as meetings held by monitoring or implementation bodies, are meant to create and maintain confidence in the process. Even where progress in the implementation is slow, these meetings are important signifiers that the peace process is still 'alive'. Similarly, digital peacebuilding activities can be planned and scheduled on a regular basis. Reminders, notifications and weekly newsletters help keep stakeholders engaged with the process. Networks of peacebuilding organisations create a sense of progress through weekly e-bulletins that document the latest developments. While such news can document both progress and regression, it may be the regularity of the information that matters most. As one mediator

[76]Grist, 'More than Eunuchs at the Orgy: Observation and Monitoring Reconsidered', 65.
[77]Ivan Manokha, 'Surveillance, Panopticism, and Self-Discipline in the Digital Age', *Surveillance & Society* 16, no. 2 (15 July 2018): 219–37.
[78]Questionnaire response, 28.10.2020.
[79]I am grateful to David Lanz for enlightening me about this point.

regularly deployed with a regional organisation put it, 'if one week you don't receive any news there is a sensation of "loss" of the certainty that there is an ongoing process/structure'.[80] Whether that process is transformative or stabilising, regularity and repetition enacted through a digital information environment strengthen the users' sense that things are 'on track'. It is important to note, however, that it is unclear if digital shepherding will lead to change or reproduce existing relationships. In this regard, other subjunctive affordances of technology are more decisive, as will be discussed below.

Digital detachment: moving beyond the past and present

Peacebuilders frequently utilise digital technology to gain or produce a greater distance to certain aspects of a conflict, when the engagement with it may hinder, frustrate or derail peace processes or peacebuilding efforts. This can help detaching the users from specific types of information, such as about events and experiences, as well as the narratives and perceptions that shape them. Detaching oneself or others from certain aspects of the world means that specific realities may go unnoticed, leaving those who lack information about them unable to act on it. This can free up mental space and redirect focus to other possible worlds.

Detachment often results from the intentional non-use of technologies, for instance when peacebuilders refrain from using specific tools that were originally meant to gather data, or when they decide to not disclose the collected data to a larger audience. This has been documented for ceasefire monitoring missions, where turning a blind eye to smaller violations may be important to safeguard the overall process in the face of uncertainty. For instance, Findlay has argued that in the implementation of peace agreements, there is usually a 'perception of imperfection', and observers are aware that there may be an extended 'period of uncertainty' before the conflict is fully settled.[81] Therefore, 'minor infractions are often overlooked on the grounds (. . .) that to over-react to them might jeopardise the continuing peace process'.[82] For example, in South Sudan, the Monitoring and Verification Mechanism (MVM) installed by the Intergovernmental Authority on Development (IGAD), which also led the peace mediation effort, first hesitated to publish its reports amid ongoing violence in 2014, then only partly disclosed its findings, and eventually interrupted public reporting once the violence resumed in 2016.[83] One monitor described IGAD as a 'black hole' to which you could send reports, but 'nothing would happen'.[84] While not releasing the monitoring reports was a strategy for mediators to not imperil the ongoing peace negotiations, it also formed part of the IGAD leadership's effort to maintain control over the process and implement their preferred approach.[85]

In other contexts, monitors or observers have silently documented atrocities or human rights violations but decided to not publish them to deprive the conflict parties of the opportunity for violent revenge. As a former staff member of a UN peacekeeping

[80]Questionnaire response, 29.10.2020.
[81]Trevor Findlay, 'The Role of Monitoring and Verification', *Contemporary Security Policy* 22, no. 3 (2001): 171.
[82]Findlay, 'The Role of Monitoring and Verification', 172.
[83]Ali Verjee, 'Ceasefire Monitoring in South Sudan 2014–2019: "A Very Ugly Mission"', Peaceworks (Washington, D.C: United States Institute of Peace, August 30, 2019), 11.
[84]Interview 7, former advisor, intergovernmental peace agreement monitoring body, 15.06.2020.
[85]Verjee, 'Ceasefire Monitoring in South Sudan 2014–2019', 15.

mission put it, there are often uncertainties 'baked into the information', such as who committed a documented attack. If the information was published, it would provide the conflict parties with an opportunity to capitalise on it by asserting 'new' or 'alternative' realities.[86] Withholding this particular information is a subjunctive act of power because it effectively deprives the parties of a resource for political or military mobilisation based on 'facts', thus reducing their ability to perpetuate the status quo.

Non-recording or deleting information is widely practised, as is the anonymisation of data, to reduce risks to individuals and processes. For instance, initiatives that aim to prevent sexual and gender-based violence may collect data about incidents anonymously to protect victims, while providing insights into geographic hotspots and trends.[87] Anonymisation also occurs when specific processes are black-boxed, for instance, through crowdsourcing technologies, where the individual identities of users who contribute to a crowdsourcing effort can remain hidden.[88] For example, in support of the preparations for the planned National Dialogue for Libya, the Centre for Humanitarian Dialogue (HD Centre) conducted a nationwide consultation, which included efforts to collect relevant information from social media interactions. Some results of the offline consultations were anonymised and published on the initiative's social media pages to encourage others to share their opinions, which were again used anonymously in a final report.[89] Aiming to sample the data across various demographic categories and then presenting the data anonymously enabled the organisation to provide an output intended to support the process while safeguarding the security of individual respondents and reducing the risk that the report could be viewed as partial. The anonymisation practice arguably also invited to change the discourse on the Libyan conflict, away from a preoccupation with sectarian aspects and towards an emphasis on the needs of all Libyans.

Moreover, content blockers, commonly used as tools to reduce exposure to targeted advertisements, can also be utilised to obtain a distance from specific types of information that can contribute to perpetuating a violent status quo. A woman running a project to prevent gender-based violence in Zimbabwe mentioned that 'content blocking or reporting sites help to provide a form of online "peace order" for women' – by providing the opportunity to 'not to eat certain sites or pictures'.[90] While the content blockers do not end physical forms of gender-based violence, they can detach the user from misogynist content that legitimises and sustains patriarchy – content that the interviewee compared to harmful physical objects, such as bad food. Fighting such forms of violence does not always require constant engagement with its various embodied manifestations. Detaching oneself from aspects of the world 'as is' may reduce the users' reactivity to such events and thus counter the power of toxic masculinities that often reign free in conflict-affected contexts. However, detachment alone may also risk creating a virtual, sanitised bubble that leaves users disengaged, thus quietly contributing to an acquiescence of the status quo and leaving power relations unchanged. While gaining a distance from the world as is may be the first step towards change, 'moving on' requires more than that. The

[86]Interview 14, former staff, international peacekeeping mission, 12.11.2020.
[87]See for instance https://www.peacedirect.org/harnessing-peace-technology/.
[88]Björn-Sören Gigler and Savita Bailur, eds., *Closing the Feedback Loop: Can Technology Bridge the Accountability Gap?* (The World Bank, 2014).
[89]Hirblinger, 'Digital Inclusion in Mediated Peace Processes'.
[90]Interview 19, staff, national peacebuilding organisation, 19.11.2020.

following sections present further reflections on how subjunctive uses of technology may contribute to such endeavour.

Digital imagination: reframing what is and envisioning possible futures

Beyond efforts to detach ourselves from past and present aspects of the world, moving on in peace processes frequently entails efforts to develop a more future-oriented perspective through practices of reframing and envisioning that stimulate the imagination. Reframing entails changing how we make meaning and look at the world. It is about viewing, perceiving and thinking differently. This is one of the main functions conventionally attributed to rituals: As Lisa Schirch has argued, 'rituals offer a new frame for interpreting the problem and the world around it' by acting 'like a prism that allows people to view the world through a new lens that emphasises relationships and a wider, more complete understanding of the nature of conflict'.[91] While differing from conventional rituals, uses of digital technology often play an important role in enabling such subjunctive attitude. A staff of an organisation that facilitates dialogue processes explained that 'crowdsourced ideas, the polling, and the visualisation of certain positive factors in a conflict setting can be a powerful way of helping people to reframe the conflict', for example 'by selectively polling people to reveal where people agree', as opposed to focusing on data that is polarising. A former member of a UN peacekeeping mission pointed to data visualisations and vivid photography or videography as means to 'help to point to aspects of the situation that don't frequently get attention', for instance:

> Physically showing that children are among the top victims of violations of the peace agreement creates a stark image that allows parties to gain a shared understanding within which compliance with the agreement can be reframed as a matter of protecting the community's children rather than as defending the "right" of one party or another.[92]

Reframing efforts commonly entail rearranging information about the world, thus changing the focus away from certain aspects of the conflict towards others, which in turn invites to consider other options for action. For instance, text-mining and topic-modelling tools may be used to analyse online narratives that underpin violent conflicts. Sharing such results with those embedded in the social media environments that perpetuate such narratives may help them understand the larger discursive field that influences their own behaviour.[93] For example, the UN's Global Pulse initiative tested options to utilise machine learning tools for the automated analysis of radio content in Uganda, to analyse the population's perceptions about refugees in an effort to use the results to inform the UN's further programming.[94] Such analysis can be used to reflect on and reframe narratives about the causes of conflict and crisis.

Reframing is also achieved through collecting, analysing and visualising large amounts of data that generate an interest in future developments, compared to individual data points that merely stimulate engagement with the past or present. For instance, ceasefire

[91] Lisa Schirch, *Ritual and Symbol in Peacebuilding* (Boulder, CO: Kumarian Press, 2005), 117.
[92] Interview 2, former staff, intergovernmental peace agreement monitoring body, 02.04.2020.
[93] Questionnaire response, 29.10.2020.
[94] John Quinn and Paula Hidalgo-Sanchi, 'Using Machine Learning to Analyse Radio Content in Uganda: Opportunities for Sustainable Development and Humanitarian Action' (Kampala, Uganda: UN Global Pulse, Pulse Lab Kampala, September 2017).

monitoring efforts that focus in detail on a countable number of violations may lead to an overt concern among the conflict parties with questions of attribution and responsibility. This focus on individual events, as was the case with the MVM in South Sudan, may lead to heightened political tensions between the conflict parties. However, where more data points are available, the attribution of individual violations to specific parties will be less relevant.[95] As was the case with the OSCE Special Monitoring Mission to Ukraine, where missions shift their reporting towards averages, growth rates, and trends that can speak to larger developments and serve as a 'seismograph' for conflict intensity, they may enable a collective future-oriented response.[96] Similar trend data is also commonly used in early warning systems to motivate proactive thinking among decision-makers.[97] Data analysis and visualisation tools that display the connectedness between various factors may move our focus away from individual grievances and towards system dynamics.[98] If used in dialogue processes, this look at the 'bigger picture' can stimulate participants' thinking around future developments and what can collectively be done to influence them.[99]

Technology also plays a role in envisioning possible futures by setting the stage from which new visions of a future society can be explored. This often entails providing content that can stimulate the imagination about aspects of a more peaceful world that does not yet exist. Peacebuilding organisations continue to rely on conventional radio and TV programmes, which in many parts of the world play an important role in providing narratives about how life could be, by enabling a 'vicarious travel to a future that is not the present', as the staff of one peacebuilding organisation put it.[100] Conventional media are now increasingly supplemented by Virtual Reality (VR) or Augmented Reality (AR) applications, for instance, used to simulate encounters between combatants from opposite sides of a conflict, which would be difficult to realise in real life.[101] Smartphone apps may bring recorded presentations of combatants into the users' personal environment, offering their different perspectives on the given conflict and encouraging them to share their visions of a future life.[102] Inserting the enemy image into their living environment, the users can vividly explore their own emotional reactions to the intimate proximity of another human that is usually kept at a distance through the dehumanising gaze produced through discourses on the 'Other'.

Finally, technology plays a role in envisioning scenarios through which challenges to the process may be resolved, thus permitting conflict parties to move on. In the context of peace negotiations, scenario modelling methods may demonstrate how possible arrangements would play out, for instance, in the context of demobilisation and disarmament campaigns.[103] While they draw on existing data about the past and present peacebuilding context and other cases, such foreshadowing methods may help conflict parties and stakeholders explore and discuss possible futures through graphical simulations or

[95]Interview 2.
[96]Claus Neukirch, 'The Special Monitoring Mission to Ukraine in Its Second Year: Ongoing OSCE Conflict Management in Ukraine', in *OSCE Yearbook 2015*, ed. Institute for Peace Research and Security Policy at the University of Hamburg (Baden-Baden, Germany: Nomos, 2016), 229–40.
[97]Interview 20, staff, diplomatic service of a regional organisation, 19.11.2020.
[98]Interview 15, staff, international peacebuilding organisation, 13.11.2020.
[99]Interview 11.
[100]Interview 13, staff, international peacebuilding organisation, 11.10.2020.
[101]Interview 13.
[102]See for instance, http://theenemyishere.org.
[103]Informal conversation, mediation advisor, 20.04.2020.

visualisations, thereby building the participants' trust in the process and anticipated developments. Moreover, technologies also play a role in envisioning futures on a societal level through comparison to other contexts or processes. Social media, for example, as a former member of a UN peacekeeping mission remarked, 'provides parties with visibility on how other societies deal with their problems'. Another colleague remarked that comparative data on peace processes and agreements, such as those contained in the PA-X database, may have similar effects 'where tech is offering a way for warring parties to engage in the thought experiment, what would peace look like by seeing comparatively how so many others have reached agreements'.[104] At times, envisioning asserts its power simply through the allure of a future, more peaceful society.

Digital communitas: unlocking and re-assembling the social

Technology can loosen up or suspend established social relations between individuals, deconstruct or subvert existing identity categories and unlock new ways of relating that can contribute to conflict transformation. In ritual theory, the results of such efforts have been described as what Turner referred to as 'communitas': a temporary social 'anti-structure' that may be characterised by attributes such as homogeneity, equality, anonymity, reduction of all to the same status level and the minimisation of distinctions and ranks, for instance among genders or people identifying with different religious or cultural groups. Communitas enable an existential experience through which the participants transcend the social classifications attributed to them by society, as they relate to each other in spontaneous, immediate and equal manners.[105] As Turner put it, 'communitas has an existential quality; it involves the whole man in his relation to other whole men'. As he continues, it 'has an aspect of potentiality; it is often in a subjunctive mood'.[106] In comparison, structure is governed by norms that maintain institutionalised relationships and correspond with established cognitive classifications and models that order public life.[107] Communitas, therefore, enables the participants to re-appreciate themselves and others as whole human beings in the various relations that they can enter in with others.

Technology plays varying roles in moving its users out of established social structures. At a basic level, online communication enables conversations and exchanges across distances and political or geographic barriers. New communication platforms now increasingly enable forms of social interaction that can replace face-to-face meetings, such as online workshops. This reduces the role of remoteness in shaping social relationships and hierarchies. For example, one interviewee described how during the COVID-19 pandemic, through online trainings organised by a Canadian NGO, some of the participants from African rural locations would for the first time talk to a 'white woman',[108] pointing to how postcolonial differentiations that are perpetuated *inter alia* by geographical barriers, the nation-state and material inequalities may be made evident – and possibly challenged – by online communication. Importantly, online platforms also

[104]Questionnaire response, 29.10.2020.
[105]Colleen Mary Mallon, *Traditioning Disciples: The Contributions of Cultural Anthropology to Ecclesial Identity*, American Society of Missiology Monograph Series 8 (Eugene, OR: Wipf and Stock Publishers, 2011), 145.
[106]Victor Turner, *The Ritual Process: Structure and Anti-Structure*, (Ithaca, NY: Cornell University Press, 1977), 127.
[107]Turner, *The Ritual Process*, 127–28.
[108]Interview 19.

enable collaboration across conflict cleavages when peacebuilding organisations intentionally create groups with participants from across ethnic, religious or cultural divides. As one respondent put it, 'in polarised settings where people based in the same location belong to different opinion bubbles and because of their political beliefs refuse to appear in one room, [. . .] using digital tools create opportunities to involve them in the same process, yet, avoiding direct confrontation'. Through organised and moderated social media groups or video conferences, the participants not only overcome the divides usually produced or perpetuated by everyday social media use, but 'perceive the process as more mediate and less direct', which allows them to save face with their respective communities.[109] In contrast to offline activities, the use of technology thus enables the testing of new relations, a prudent, mediated and temporary transgression of the divide, and a short encounter with an anti-structure, which could be seen as the harbinger of new worlds. Importantly, such constellations do not require definite answers about the participants' identities and consequently reduce the degree to which uncertainty about agency could hinder the process.

Subjunctivity can further be enabled by material-semiotic assemblages such as architectural artefacts or music, for instance, through repetitive patterns or the symbolic transcending of established boundaries.[110] Similarly, anti-structure is commonly created through the design of devices and applications that invite transcending established social boundaries. Social media platforms may lead to a change of hierarchies by increasing the influence of some and decreasing that of other users. However, this does not change the fact that existing social and political leaders usually find a way of also asserting themselves authoritatively in online spaces. Political elites, institutions and parties often have large social media followings, and social movements see their followers grow commensurate with their impact in the offline world. Online webinars are at risk of producing gender hierarchies just as their offline equivalents. Digital tools may, on the other hand, can be designed to equalise influence and make everyone's contribution count in the same way. For instance, the Virtual Exchange Platform used by the NGO Soliya arranges all participants' videos in a circle and marks a joint common space in the middle, thereby reducing opportunities to interpret the arrangement as an expression of hierarchy. The platform relies on self-moderation, where participants 'own' the microphone until they release it to the next speaker. These design components flatten hierarchies among the participants while invoking a principle of civility in which releasing the microphone becomes just as important as taking it in order to maintain the dialogue. This feature also creates heightened awareness among the participants about the power they exercise when they speak and a stronger sensitivity for the kind of community that they enact through their own participation in the dialogue.[111]

Conventional social hierarchies may also be undermined in crowdsourcing or crowdseeding projects – at least for the duration of the project. Rather than relying on expert knowledge or skills, these projects are dependent on regular users working towards achieving a common task. Such activities create a social infrastructure where the users' identities remain hidden. This enables collaboration and creates a sense of common

[109]Questionnaire response, 28.10.2020.
[110]Seligman et al., *Ritual and Its Consequences*, 94.
[111]Interview 12, staff, international peacebuilding organisation, 02.10.2020.

purpose across identity divides and social ranks that would usually hinder such collaboration. Instead, other aspects relevant to an individual's existence can come to the fore, such as the specific local knowledge they possess or the motivation underpinning their work.[112]

Technology may also enable new social relationships, facilitate networking and contribute to novel forms of collaboration among individuals, which may indicate emerging forms of social organisation. It may help sediment new social ties through the creation of a sense of community and connectedness among individuals identifying with a diversity of groups and interests. Social media, in particular, can facilitate the building of new relations, for instance, if peacebuilding organisations create user groups based on a common interest in sports or culture.[113] It is also used to foster community resilience in the context of humanitarian crises or disasterswhen helping to crowdsource information to assess risks, share warning messages among social media users, and build response or support systems.[114] These forms of networked collaboration also create value beyond these immediate, tangible benefits. While not necessarily building interpersonal relationships and often only enabling loosely connected networks, social media platforms may create real and imagined communities – real in the sense that some users personally interact with each other, and imagined in the sense of perceived similarities, such as shared emotional connections and joint goals.[115] While lasting online communities are often difficult to achieve – not least due to connectivity challenges, lacking infrastructures and devices, or limited internet freedom – the use of technologies nonetheless creates examples of new forms of organisation and collaboration. While the sense of community created is more aspirational and an expression of a desire to build new relationships, it demonstrates that social transformation is possible if specific identity traits and established roles and hierarchies are put aside.

Conclusion and outlook

Against the backdrop of the increasing use of digital technologies in peacebuilding and especially the surge of data- and evidence-based approaches, I have argued that the practice and research on this matter are prone towards a sincere attitude that is primarily concerned with the world as is. However, in the context of war and violence, establishing facts is often difficult – and at times engaging with the world as is may do very little to fulfil the need of conflict parties, stakeholders and peacebuilders to move on in the search for a settlement. For researchers, the sincere view may hide other powerful uses of technology that do not primarily operate in a discursive manner. This article drew attention to the relevance of non-sincere uses of digital technologies. It demonstrated that subjunctive affordances can enable peacebuilding practices that are powerful in their performative capacity to move those in conflict away from the past and present, and

[112]Interview 15; Jessica Heinzelman, Rachel Brown, and Patrick Meier, 'Mobile Technology, Crowdsourcing and Peace Mapping: New Theory and Applications for Conflict Management', in *Mobile Technologies for Conflict Management: Online Dispute Resolution, Governance, Participation*, ed. Marta Poblet, Law, Governance and Technology Series (Dordrecht, Netherlands: Springer Netherlands, 2011), 39–53; and Anne Kahl, Christy McConnell, and William Tsuma, 'Crowdsourcing as a Tool in Conflict Prevention', *Conflict Trends* 2012, no. 1 (1 January 2012), 27–34.

[113]Questionnaire response, 25.10.2020.

[114]Neil Dufty, 'Using Social Media to Build Community Disaster Resilience', *Australian Journal of Emergency Management* 27, no. 1 (February 2012): 7.

[115]Anatoliy Gruzd, Barry Wellman, and Yuri Takhteyev, 'Imagining Twitter as an Imagined Community', *American Behavioural Scientist* 55, no. 10 (1 October 2011): 1294–1318.

towards possible worlds. These affordances do not necessarily create a new political settlement, but they playfully operate between what is and what could be by enabling temporary orders and evoking possible worlds.

The main intention of this article was to demonstrate that subjunctive uses of technology are a source of power that can be harnessed by individual actors in their efforts to move from the conflict-affected world that *is* towards worlds that could be. I have demonstrated that digital technologies are used in subjunctive manners by a variety of peacebuilding actors – including mediators, dialogue facilitators, peacekeeping staff and ceasefire monitors. Yet, while demonstrating the powerful effects of subjunctive technologies in concrete situations and contexts, the article stops short of generating broader theoretical claims about how subjunctivity affects, and is affected by, power relations in peacebuilding. There are multiple opportunities to take this research agenda further.

First, to better understand the workings and effects of the subjunctive, future research could benefit from interdisciplinary approaches that harness insights from other disciplines. The concept of the subjunctive has largely been developed in the disciplines of philosophy and anthropology, but there is little doubt that subjunctive affordances ultimately work on the human mind, emotions and behaviour – because the subjunctive is first and foremost a mode or an attitude. Research in social psychology in this field suggests, for instance, that online platforms can facilitate encounters that reduce prejudice between the participants, and that the success of such activities depends partly on factors that may create subjunctive aspects such as anonymisation or games.[116] However, differentiating between short-term and long-term impacts of such technology uses, as well as accounting for other factors, such as individual psychology, remain important research desiderata.

Second, further questions should be asked about the global environment that conditions who can use such techniques and with what effects. Historically, subjunctive ways of relating to the world have been superseded by the modernist drive towards sincerity, now encapsulated in the obsession with data- and evidence-driven approaches and the political divisions (re-)produced by social media platforms. At the same time, the global disbalance in access to technological capacities will also affect who has the leverage to overcome the negative consequences of sincere uses of technology, which risks locking those affected by conflict into a hurtful present. Without a doubt, the availability of subjective affordances is conditioned just as much by global inequalities in the access to, availability of, and authority over digital infrastructures as is the case with other affordances provided by digital technologies. However, at times, enabling subjunctive practices through technology may not require much technological capacity. Practices of detachment, such as the non-use of technology and data, bear similarities with James Scott's 'weapons of the weak', when they are used by less technologically resources activists.[117] However, countering polarisation and enabling new forms of digital communitas, or enabling encounters with the Other beyond the algorithmic divides perpetuated by social media platforms, requires considerably more technical skills and capacities – and this will remain the privilege of well-resourced and -skilled peacebuilding actors.

[116]Yair Amichai-Hamburger, Béatrice S. Hasler, and Tal Shani-Sherman, 'Structured and Unstructured Intergroup Contact in the Digital Age', *Computers in Human Behaviour* 52 (1 November 2015): 515–22.
[117]James C. Scott, *Weapons of the Weak: Everyday Forms of Peasant Resistance* (New Haven, CT: Yale University Press, 1985).

Finally, we may want to shed light on the possible harmful effects of subjunctive approaches, and the necessary interplay of subjunctive and sincere technology uses in peacebuilding efforts. The distance from the world as is, which subjunctive technology helps to enable, may have a liberating effect for those who use it. Yet, there is also a risk that subjunctive affordances will lock conflict-affected populations into forms of digital virtuality: selective evidence production and sharing may provide important opportunities for disengagement, de-escalation and pause; online dialogues that enable encounters across the fault lines and geographic divides may encourage a new vision of coexistence; visualisation tools may help to reduce complexity and built momentum towards joint action. But what are the consequences of such actions if the underlying structural causes of violence remain unaddressed? What if the violence in the world *as it is* rages on? When and how can subjunctive affordances pave the way towards a tangible peace, and when do they leave us with a mere illusion of worlds that *could be* but never materialise? Answering such questions requires further engagement with the interplay of subjunctive and sincere peacebuilding practices and their effects on the tangible, material and embodied manifestations of peace and conflict.

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