Leveraging digital methods in the quest for peaceful futures: the interplay of sincere and subjunctive technology affordances in peace mediation

Andreas T. Hirblinger, Ville Brummer & Felix Kufus

Routledge
Taylor & Francis Group

Leveraging digital methods in the quest for peaceful futures: the interplay of sincere and subjunctive technology affordances in peace mediation

Andreas T. Hirblinger ⓘ[a], Ville Brummer[b] and Felix Kufus[b]

[a]Geneva Graduate Institute, Geneva, Switzerland; [b]CMI – Martti Athisaari Peace Foundation, Helsinki, Finland

ABSTRACT

Efforts to support the resolution of armed conflicts through the facilitation of peace negotiations and dialogues increasingly involve digital technologies. While traditionally perceived as a human-centered activity, peace mediation now commonly entails information- and data-driven methods to enhance talks, support the analysis of conflict stakeholder needs and interests, and ground mediation efforts in better evidence. Digital technologies also promise to make peace efforts more future-oriented by helping to predict or anticipate upcoming developments, build scenarios, and increase readiness for emerging challenges. However, little is known about how such methods can be employed in dialogue and negotiation settings, where participants may have subjective and incompatible views on the conflict context, and more data and evidence don't necessarily help to determine what a more peaceful future could look like. Through a qualitative study of the use of digitally enhanced dialogue efforts in Yemen and Libya, we demonstrate that future-oriented peacemaking requires the balancing of 'sincere' technology affordances that encourage an engagement with the past and present reality of conflict, with 'subjunctive' technology affordances that encourage an engagement with possible futures that are more peaceful. In practice, this requires combining data- and evidence-generating methods concerned with the world 'as is' with data analysis and visualization methods concerned with how the world 'should' or 'could' be. Our findings have implications for the study of digital methods in the facilitation of contentious political processes where the provision of data and evidence may create hurting deadlocks.

Introduction

International peace mediation increasingly relies on digital technologies to facilitate the search for political settlements between parties in armed conflict. Under the headings of

CONTACT Andreas T. Hirblinger ✉ andreas.hirblinger@graduateinstitute.ch ▣ Case postale 1672, 1211, Geneva 1, Switzerland

'Cybermediation' and 'Digital Peacemaking,' the field currently explores how digital technologies can support tasks such as strategic communication or conflict analysis. Moreover, there is an increasing interest in data-driven and Artificial Intelligence-supported approaches in pursuit of future-oriented peace-support measures that promise to help with prediction, forecasting, and scenario planning (Jenny et al., 2018; UNDPPA & HD Centre, 2019; Varela, 2021; Wählisch, 2020). Such advances have created a sense that, with the help of new technologies, peace mediation can now engage in 'chasing the future' (Hirblinger et al., 2023).

Many of these applications and the digitally enhanced peace mediation and dialogue approaches they enable remain little studied. More concretely, we are yet to understand how information about the past and present can be effectively utilized in participatory settings that aim to enable political transitions towards peaceful futures. Data-driven methods often have a 'scientific' appeal that all too easily raises the expectation that they will enable more objective and accurate analysis and decision-making. However, 'chasing the future' requires considerable human involvement, given the limited accuracy of even the most advanced AI-supported conflict prediction models (Hirblinger, 2022). Importantly, conflict parties and stakeholders included in data gathering and analysis exercises will usually hold strongly subjective views on the conflict and may associate data and information with hurtful grievances and conflicting stances, which makes their utility for peace mediation by no means straightforward. As peacemaking efforts often face a range of challenges that are not only grounded in a lack of information about the causes and dynamics of conflict but also in the participants' conflicting values, narratives, and beliefs, it is not evident how employing technologies merely as tools to add more data and evidence to the process will satisfy the exigencies of future-oriented peacemaking.

To leverage the peacemaking potential of digital technologies, dialogue facilitators must use digital technologies not only to produce more data- and evidence about the past and present of conflict but to facilitate a future-oriented process that helps to explore how the conflict could or should be resolved. We explore this challenge by building on – and furthering – recent research on the role of technology affordances in mediating certainty and uncertainty in peace processes along epistemic, ontological, and normative dimensions (Hirblinger et al., 2023), as well as the theoretical distinction between *sincere* technology affordances and *subjunctive* technology affordances (Hirblinger, 2023). Sincerity prompts us to describe, explain and analyze this world with as much precision and clarity as possible (Seligman et al., 2008, pp. 8–9). Sincere technology affordances work mainly on a cognitive level and stimulate our engagement with the world *as is.* This is commonly the past and present world, about which digital technologies promise to generate facts and evidence, thus fostering epistemic certainty. However, sincerity can also characterize our attitude toward the future, for instance, if digital methods are used to predict or plan post-conflict political arrangements, and it often underpins narratives or beliefs, which creates ontological certainty.

In contrast, subjunctive technology affordances work primarily in non-cognitive ways, seeking openness, ambiguity, experimentation, and the accommodation of differences as they invite us to explore and experience the world as it *could be* (Seligman, 2009). Therefore, subjunctive technology affordances encourage conflict parties to face – and cope with – many uncertainties that characterize peacemaking efforts, including epistemic

uncertainties that emerge when facts and evidence can't be established or ontological uncertainties that emerge when established narratives and beliefs are challenged. Furthermore, both sincere and subjunctive modes play a role in dealing with normative uncertainty in dialogues that emerge around the question of how peaceful orders *should be* because they help with sincerely expressing and arguing about values while accommodating potential normative differences with constructive ambiguity. Overall, our article demonstrates that the skillful combination of sincere and subjunctive technology affordances in multi-stakeholder dialogue settings can support process-level progress by directing dialogue efforts toward the future.

To illustrate our argument, we present a qualitative study of two Track-2 dialogue activities in Yemen and Libya conducted by the CMI – Martti Ahtisaari Peace Foundation in 2019–2021. Our cases are particularly suitable as illustrative examples because, in both, hopes of political transformation towards a more peaceful settlement were curtailed by a long-term, protracted conflict characterized by multiple uncertainties and certainties. Comparing these two dialogue efforts, we demonstrate that different off-the-shelf and tailor-made digital methods can skillfully be combined to leverage subjunctive and sincere technology affordances that enable future-oriented dialogue efforts.

The article proceeds as follows. After presenting our methodology, we introduce the differentiation between sincere and subjunctive technology affordances and discuss their role in participatory dialogue settings characterized by uncertainty. After that, we provide an overview of CMI's computer-assisted facilitation methods. The remainder of the article discusses the interplay of sincere and subjunctive technology affordances in the Yemen and Libya dialogues, highlighting how they played a complementary role in dealing with uncertainties and certainties that these processes faced – and in directing the process toward the future. Our findings advance the conceptual and theoretical discussion of digital peacemaking and are also of relevance for the study of digital facilitation methods employed in other contentious political processes.

Methodology

Studying the use of digital technologies in peacemaking requires a qualitative empirical research design that can adequately reconstruct dialogue dynamics. Therefore, our research combined a desk study of written or visual documentation with expert interviews with professionals involved in the dialogues, focus group discussions with dialogue participants, and participatory observation. To safeguard dialogue processes, organizations involved in peace mediation are commonly concerned with maintaining high levels of confidentiality. This can complicate the collection of sufficiently detailed and reliable information. Hence, the research for this article was conducted through an arrangement that sufficiently addressed confidentiality concerns. All three authors have been, or are currently, affiliated with CMI. The lead author has worked as a scientific advisor and consultant to the organization, the second author is the organization's Chief Programme Officer, and the third author was initially hired to support the research for this article and then employed as a consultant for additional assignments. Therefore, the study was carried out through an embedded approach that combined a 'view from within' and a 'view from without.'

The research was carried out over a period of two years. Following a commissioned review of digital methods employed by CMI led by the lead author in November and December 2020, he suggested conducting a case study of their future-oriented peacemaking efforts, which would employ and further develop the conceptual framework of sincere vs. subjunctive technology affordances. To this end, a second round of interviews was carried out in November and December 2021, producing most empirical data for this article. This part of the research was funded by a grant from the Swiss National Science Foundation (SNSF), which covered the working hours for empirical research and the article production, except those by the second author. While this arrangement means that no content in this study will be contrary to the organization's interests, we emphasize that this paper neither aims to evaluate nor endorse CMI's methods or their effectiveness. Rather, the theoretical and empirical findings presented in this article satisfy a research interest in the role of subjunctivity and sincerity in digital peacemaking efforts, which was developed and funded before the onset of the collaboration with CMI.

The two cases discussed in this article depict dialogue dynamics as they happened, but they also contain additional observations and insights from comparable cases. Our analysis draws on 33 conversations with 22 research participants, selected due to their involvement in the two cases discussed in this article or their general knowledge of the digital methods employed. Several research participants were interviewed more than once. In addition, we conducted two focus group discussions with a total of six former dialogue participants. All conversations were held remotely. To preclude negative effects on the dialogue efforts or individuals, all research interactions with the participants were conducted after the project activities had been concluded and based on informed verbal consent. To safeguard the participants' privacy, we do not disclose their names, positions, or organizational affiliations and verbatim quotes are reproduced without reference. Furthermore, the visualizations reproduced in this article are illustrative and have not been employed in the process.

For the first round of interviews, hand-written notes were produced. The second round of interviews and the focus groups were recorded, transcribed, and coded using Qualitative Data Analysis (QDA) software. The coding combined deductive and inductive reasoning (Reichertz, 2014). The code structure was first developed based on our theoretical interests and then refined during the empirical analysis. We assessed the presence of subjunctive technology affordances by coding the participants' recollections based on the typology presented by Hirblinger (2023). However, we also included other references to modes, attitudes, or behaviors that direct attention to how a more peaceful order 'could' be. We assessed sincere technology affordances through references to modes, attitudes, or behaviors that direct attention to the conflict context as 'it is.' Both sincere and subjunctive affordances can enable discussions about how peaceful orders 'should be,' and, in such instances, we assessed if one – or both – types of affordances were involved.

Subjunctive and sincere technology affordances, uncertainty, and future-oriented peacemaking

As their name suggests, digital information and communication technologies (ICTs) – or short – digital ICTs are tools that enable the storage, processing, and sharing of

information in the form of data. These tools are often discussed in terms of their intended uses – but we should also pay attention to the unintended uses that may emerge during their employment or through creative adaptation. Therefore, in line with Conole and Dyke (2011), we consider both the intended and unintended uses of digital ICTs as 'technology affordances.' These affordances should not be regarded as objective givens but also emerging through practices of meaning-making, performance, and subjective interpretation (Hutchby, 2001, p. 447; Welch et al., 2015, p. 5).

Digital ICTs often enable what can be called a *sincere* engagement with conflict by creating data that promises to represent the world as accurately as possible (Hirblinger, 2023). Mediators may leverage such sincere affordances in various ways, for instance, to close the 'information gap' between conflict parties by enabling better communication (Jenny et al., 2018), identify the sentiment of the conflict parties' statements on social media (Varela, 2021), compare conflict party positions through the text-mining methods (Arana-Catania et al., 2022), or model public preferences regarding peace processes and their outcomes (Bilich et al., 2019; Khashman & Khashman, 2017).

While such efforts contribute to reducing uncertainty in its epistemic dimension, recent research suggests that two additional dimensions deserve attention when studying the use of digital technologies in support of peace processes. Hirblinger et al. (2023) suggest thinking about un-certainty as a spectrum between certainty and uncertainty, mediated by digital technology and differentiate between epistemic un-certainty (resulting from a limited availability of reliable data on conflicts), ontological un-certainty (resulting from diverging narratives and beliefs about conflict), and normative un-certainty (resulting from diverging values that shape the employment of technology and decision-making). Drawing on this differentiation, our case studies show that conflict parties, stakeholders, and third parties involved in dialogues must often navigate ontological and normative certainties and uncertainties on top of arguing about facts. For instance, conflict parties, stakeholders, and third parties may have limited normative certainty about the desirable outcomes of the process and how a future political order should look like. Furthermore, conflict parties often have a sincere sense of their identities and interests that they view as authentic and immutable and opposed to that of their opponents. Transforming antagonistic relationships requires that parties cope with ontological uncertainties that emerge when established stances, beliefs, or narratives about the Self and Others are challenged in dialogue settings.

Recent research on the use of digital technologies in peacebuilding has demonstrated that digital technologies can move peace processes forward in contexts characterized by uncertainty by encouraging a *subjunctive* engagement with possible future worlds. Hirblinger (2023) has argued that subjunctive attitudes or modes can be realized in performative practices that help conflict parties and stakeholders to act 'as if' peace was possible, and digital technology affordances can play a significant role in these efforts. For instance, they can help detach conflict parties from narratives and perceptions, reframe their perspectives on the world, and envision political alternatives. While these affordances do not create a permanent political settlement, they enable temporary processes that help conflict parties move towards a more peaceful future. However, at times, a sincere attitude may likewise be important, not in terms of a concern with how the world is or has been, but in terms of a realistic and meticulous concern with

the future. While subjunctivity often operates through enabling openness and ambiguity, sincerity seeks closure and clarity.

This suggests that sincere and subjunctive technology affordances may be complementary. Yet, to date, there is no comprehensive empirical study of the interplay between sincere and subjunctive technology affordances in mediated dialogues. This article aims to fill this research gap through a case study of CMI's dialogue projects in Yemen and Libya – two peace process contexts characterized by numerous uncertainties. The next section provides an overview of the principal steps of CMI's methodology before we dive into the case studies.

From participatory data-collection to future-oriented decision-making and action

In the past decade, CMI has developed a set of methods to facilitate participatory decision-making, identify emerging opportunities to support peace efforts, and develop future-oriented roadmaps for action (CMI, 2013). Similar approaches are commonly used to facilitate decision-making in adjacent fields, including technological innovation (Miles et al., 2017), conflict and crisis prevention (Hegre et al., 2013), or environmental decision-making (Haarhaus & Liening, 2020). In all these areas, empirical uncertainty stemming from insufficient data and the interrelated impact of social, political, economic, and environmental factors on future developments necessitates an engagement with a diverse pool of experts to systematically assess possible and probable futures (Groves & Lempert, 2007). This should help to tap into distributed and often tacit knowledge to generate insights that are reliable enough to prepare for, and influence, future developments. Such approaches are commonly referred to as 'foresight' (Mietzner & Reger, 2005).

Importantly, peacemaking must go beyond merely establishing sufficient epistemic certainty by enabling decision-making processes that provide an ontological and normative basis for a joint dialogue outcome. CMI's use of future-oriented methods differs from those in other fields, as dialogue efforts commonly engage with stakeholders who are not only experts but political actors – either informal representatives of primary conflict parties or relevant stakeholders who influence the conflict system. Dialogue processes also commonly involve organized civil society members engaging with broader segments of society beyond the principal conflict divide (Mapendere, 2005). Given the elevated role of participants as political representatives or subject matter experts, the line between authoritative facts and the participants' subjective interpretations, stances, and demands is often blurred.

This affects the aims and approaches to dialogue. Therefore, CMI's future-oriented methods do not aim to assess the peace process with scientific accuracy but to explore the participant's subjective positions on the different issues through participatory analysis. In this process, the participants are also supported in their collaborative effort to re-imagine and co-create alternative futures. However, given that the participants tend to be both subject matter experts and political representatives, the line between authoritative facts and subjective interpretations, stances and demands is often blurred. This means that the dialogues aim to do more than just establishing epistemic certainty. In ontological terms, dialogues aim to create a dialogical community of experts and decision-makers

that takes or encourages action despite diverging views and positions. In normative terms, they aim to establish legitimate outcomes through a participatory process that involves representatives of key constituencies relevant to the search for a political settlement.

CMI's future methodology consists of five main steps through which stakeholders identify, assess, and anticipate relevant issues with the help of software.[1] The term 'issue' is usually used vaguely to refer to factors that cause or shape conflict dynamics and must be addressed as part of the conflict resolution effort. Each step can be implemented either through online interfaces and social software or in an in-person, face-to-face format. The different steps are carried out in an overlapping and iterative sequence (see Figure 1) involving different stakeholders; for example, step 1 (Identification) can be implemented through a broad-based inclusion of many participants, such as through online surveys. In contrast, steps 2 (Assessment), 3 (Visualization), and 4 (Interpretation) tend to be carried out by a smaller set of stakeholders. Step 5 (Action) can be implemented by a selected number of influential decision-makers, mediators and their teams but may also involve the broader population.

The process always starts with the participatory identification of relevant issues along the PESTEL framework commonly used for risk analysis, which focuses on political, economic, social, technological, and environmental factors that are relevant for an understanding of conflict dynamics and the future development of the conflict system (Compare to LexisNexis, 2022). The list of issues can be pooled from various sources, which leads to a blending of data that is perceived as objective (for instance, from representative surveys) and data that is perceived as subjective (from the individual participants). The second step entails the participatory assessment of the previously identified issues against selected criteria, such as their importance or urgency for the process, or their interdependence, along a Likert scale. These assessments provide the basis for different visualization methods. Facilitators may map the data on a quadrant plot along two analytical dimensions (see for example Figure 2 below) or display relations between the issues in cross-impact networks (see for
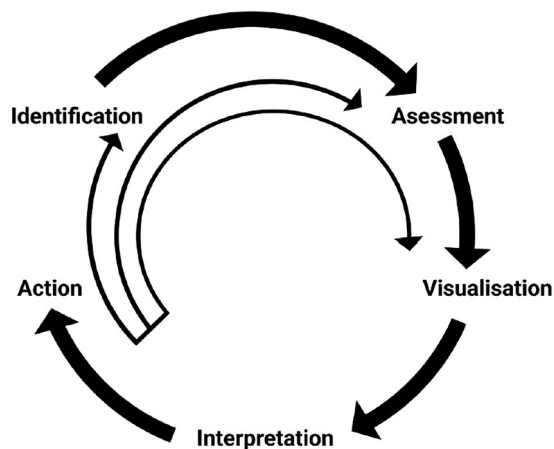

Figure 1. Principle steps for future-oriented decision-making in participatory dialogues. The thin arrows depict options for iteration.
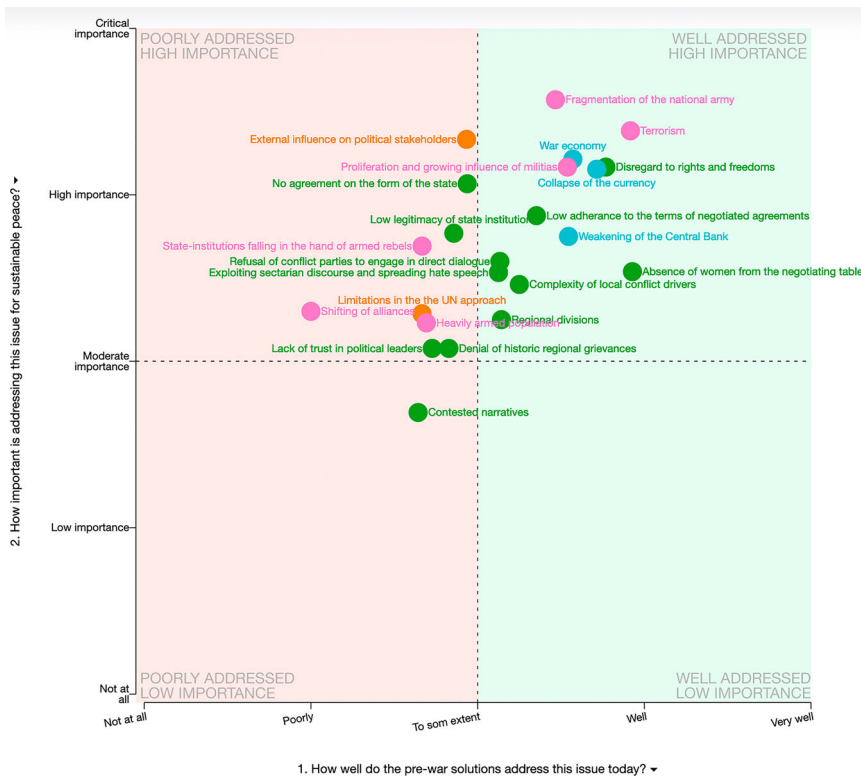
Figure 2. Illustrative example of the results of the prioritization exercise conducted in one of the Yemen dialogue sessions. Generated with Inclus Software.

example Figure 4). At times, facilitators may also use other off-the-shelf visualization tools, such as mind-mapping software, to display qualitative dialogue data, such as proposals or positions (see Figure 5). The assessment and visualization of the stakeholders' viewpoints during the facilitated workshop sessions require that the participants constantly interpret the data. This step often sparks debate and encourages the participants to identify differences and similarities in their understanding of the conflict and the options for its resolution. At times, this may lead to a re-iteration of steps 1–3 through prompts to identify additional issues, gather additional data, or assess and visualize them with another method. Finally, most dialogues are designed to produce a concrete output supporting the peace process, such as a joint statement or plan of action. Next, we will discuss the utility of these facilitation methods in the two case studies.

Yemen: setting peace process priorities

Since its creation as a unified state in 1990, Yemen has seen armed conflict between pro-union northern groups and southern separatist groups, mainly fueled by grievances related to the devolution of power in the country (International Crisis Group, 2020). In the past decade or so, the conflict has also taken on sectarian dimensions, as Shiite

Houthi rebels, Sunni Islamist groups, and tribal armed groups competed with government forces to control Yemen's Northern and Southern regions. Since 2014, the main conflict lines have run between the Houthi armed movement, the internationally recognized Yemeni government, as well as further separatist forces backed by neighboring regimes (Byman, 2018). International attempts to broker peace agreements have all failed to terminate the conflict.

CMI's efforts to support a peaceful settlement of the conflict date back to the National Dialogue held in 2013. The activities covered in this case study include several dialogue workshops held in 2019, complementing the UN-led peacemaking efforts aimed at a ceasefire and power-sharing arrangement between the Internationally Recognized Government and the Houthis. CMI's initiative aimed to establish a more broad-based platform to enable a dialogue about substantial and long-term issues, based on the assessment that an inclusive and comprehensive dialogue process was necessary to secure a lasting peace. To this end, CMI organized several in-person workshops in January, April, and June 2019 outside Yemen, bringing together a diverse group of conflict stakeholders from various parts of the country and with different political affiliations, including political party leaders, military leaders, tribal leaders, women activists, and journalists. Between sessions, the team maintained contact with the participants through online communication and online data-gathering and analysis exercises.

At the onset of the project, CMI's support effort faced substantial epistemic and normative uncertainties. First and foremost, the protractedness and complexity of the conflict made it challenging to determine suitable entry points. Given the many failed initiatives, it was difficult to ascertain which activities could have an impact and what should be prioritized. This was also due to the large number of national, regional, and international conflict stakeholders, which led to the perception that 'everyone had their fingers in,' as one team member put it. Furthermore, there was also a widely held view that international peace efforts had so far made little progress, not least because of divisions within the UN Security Council, which mandates the UN Special Envoy. UN-led efforts continued to be informed by UNSC Resolution 2216, which tasked the Special Envoy to hold high-level talks between the Yemeni conflict parties. However, according to one expert who participated in the project, there were 'many more de facto authorities on the ground,' each wanting to participate in the process, which created uncertainty about who should be involved and to what ends. At the same time, the main conflict parties maintained antagonistic narratives, benefited from the conflict economically and remained confident that a military victory was possible. Given such ontological certainties, they showed little interest in a negotiated settlement.

The interplay of sincere and subjunctive affordances

In January 2019, the project team launched the dialogue initiative with an in-person workshop. The first challenges were clearly understanding what aspects of the conflict should be tackled and identifying priorities for the dialogue process. During preceding activities, the facilitators had documented many impediments to a peaceful settlement. This list was shared with the participants through a slideshow presentation and used as a basis for further brainstorming to identify and rank about 20 factors that prevented progress in the peace process. The team subsequently used the list of identified issues in a

prioritization exercise (see Figure 2 below), through which the participants were asked to rank how 'important' the issues were for 'sustainable peace,' and how well these issues were addressed by the solutions identified in the National Dialogue held before the outbreak of the war.

This prioritization exercise had several sincere affordances. To begin with, it asked the participants to engage with the world *as is* by identifying concrete factors that shaped the conflict. While the facilitators emphasized that this list was not based on an objective or scientific assessment, it contained sincere expressions of what the participants thought the *real* challenges to a peaceful settlement were. Visualizing the participants' inputs considerably increases the transparency of the dialogue process by systematically revealing the participants' views. The sincere attitude that this step produced could be compared to a synchronous collective confession (compare to Seligman et al., 2008, p. 106) – an act in which all participants disclose their stances and views as detailed as possible through written and numerical inputs. While comparable dynamics are theoretically possible in conventional dialogue facilitation, the computer-assisted data collection and facilitation synchronizes the processes, saves the time that would be needed to discuss each item verbally, and potentially eliminates collective action problems that would reduce the chances of honest information exchange in situations were no participant may want to make the first move to disclose their stance.

The visualization tool also allowed to disaggregate the data to display the assessments of individual participants and to color code them according to demographic markers (see Figure 3 below). This was perceived as a 'neutral' method that rendered divergent assessments more visible. Compared to conventional approaches that would facilitate verbal expressions of positions and sentiments, this visualization enabled a clear and organized
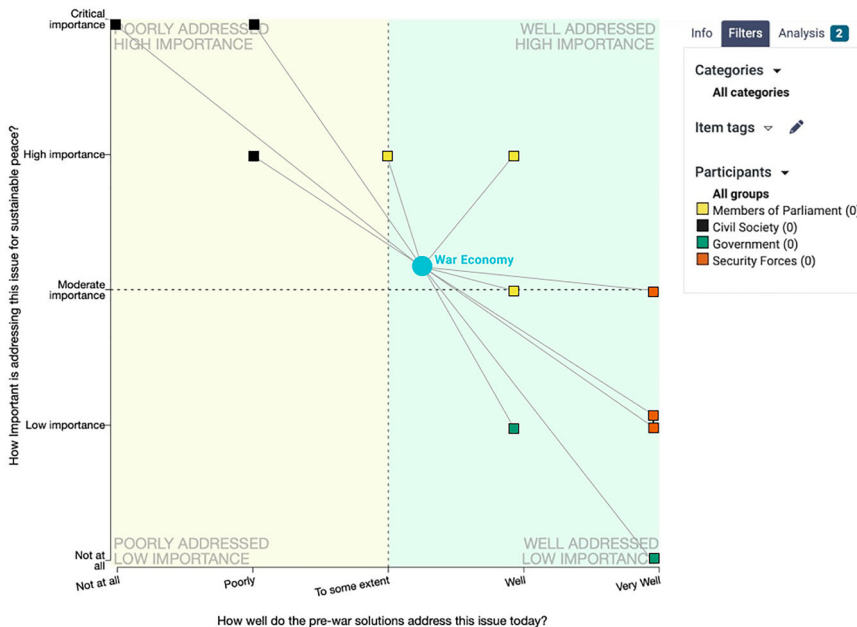

Figure 3. Illustrative example of the results of the prioritization exercise conducted in one of the Yemen dialogue sessions, disaggregated by demographic groups. Generated with Inclus Software.

representation of the participant's positions. For instance, comparing the assessments of participants associated with civil society versus participants associated with government enabled a sincere concern with how these affiliations shaped the participants' views on the conflict. Locked onto the digital canvas, the information became less elusive and transient, thus inevitably highlighting the key issues of the conflict setting, as well as areas of consensus and divergence among the group.

However, this data still needed to be given meaning through the participants' interpretations, which stimulated further sincere discussions among them. Individual nominal values (such as 'lack of trust in political leaders' matters to 'some extent' and is of 'moderate importance') may have little concrete value, yet the clustering encouraged the comparison of the values of different issues. This invited conclusions that one issue mattered more than another or that one particular demographic group viewed the issue as of greater relevance than another, but it also helped to identify convergences between groups. Taken together, the relative mapping of data inputs in the illustrative Figures 2 and 3 stimulated a sincere discussion that touched on epistemic and ontological dimensions of un-certainty. It highlighted how the issues were assessed differently on an aggregate level, aiming to increase collective epistemic certainty that allowed to conclude with confidence that one issues was more important, or better addressed, than another one. Furthermore, it showed how these differences were perceived across demographics. This invited to ask about the subjective stances, values or beliefs that led to the divergence across the participants, which helped to unsetlle ontological positions that stood in the way of joint decision-making.

The prioritization exercise was also meant to create a subjunctive momentum. To begin with, the term 'issue' functioned as an empty signifier that could symbolize a variety of concerns and thus enabled the participants to relate to each other's diverse views. The participatory collection and visualization of data allowed the participants to contribute their own perspectives and have them represented next to that of others on the scatter plot. In ontological terms, this created a temporary 'communitas' which challenged antagonistic narratives and beliefs and enabled a temporary social arrangement that could serve as an inspiration for the future because it demonstrated that collaboration across political fault lines is possible (compare to Hirblinger, 2023, p. 131).

Moreover, the exercise established a process that helped the dialogue to move forward. As one of the designers of CMI's digital methods put it, 'when you have multiple issues and multiple parties that have multiple perspectives on all of the issues, it is almost impossible to handle a dialogue.' However, by aggregating and visualizing this data, the exercise prevented the dialogue from getting stuck in too much complexity. Moreover, by asking the participants to rank individual issues according to their importance, it facilitated the development of a joint perspective on process priorities, which can be viewed as an effort to create joint normative certainty about what should happen next. Several participants recalled that the exercise produced little new knowledge because everyone contributed their preconceived assessments, but it helped to create a shared understanding of priorities, which stimulated joint action. As one of them put it, the process 'was no longer about what people's opinions *were*, but rather what people *could* agree to.'

Importantly, in this and other cases, there was nonetheless a tendency among some participants to perceive the results of the exercise as 'scientific' or 'objective.' Therefore,

the facilitators stressed that the results should not be viewed as 'evidence' but as data representations of individual perspectives. This, in turn, could prompt the participants to sincerely engage with their differences, for instance, when a participant's opinion diverged from the aggregate value. As one participant put it, there were 'some people that have their opinions and they might not be a majority in Yemen (…) people obviously have different opinions, and they will not see the same priorities that everyone else sees.' However, this risked triggering new discussions, for example, about individual data values, the relevance of outliers, or the explanatory power of the data. In such situations, careful dialogue facilitation was required to guarantee the dialogue process would remain productive. For instance, in cases where individual participants disagreed about any specific values, such as the importance of a particular issue, the facilitators demonstrated what the majority was thinking by pointing to the calculated aggregated value and the overall distribution of values on the chart. These aggregates were not better suited to determining what was objectively the case, but they helped to move the process ahead by distracting from individual divergences by providing a calculated compromise value that generated a 'big picture' around which consensus could be built. At times, the facilitators would also iterate the process by revisiting the input data and 'tweaking' the analysis to make the visualization outcome more acceptable for the participants. Their willingness to manipulate the participants' input data further emphasizes that
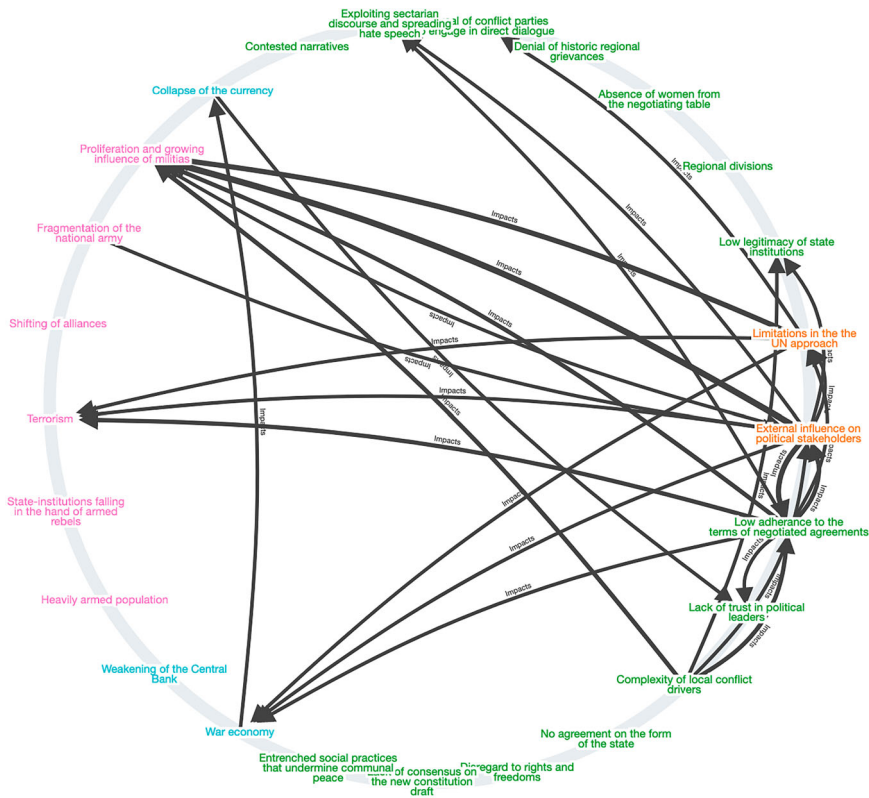

Figure 4. Illustrative example of the results of the Cross-Impact Analysis conducted in one of the Yemen dialogue sessions. Generated with Inclus Software.

the exercise was not meant to establish an objective view of the world but to playfully support the dialogue process.

The prioritization of issues was followed by a further exercise to identify relationships between the different factors, the so-called cross-impact analysis (see Figure 4 below). Using the online data collection platform, the participants were asked to make connections between the various issues identified earlier, and the collected data was then used to draw up a network diagram linking the issues. The arrows between the issues were weighted according to how many participants had identified them, which allowed to focus the discussion on what were seen as the most relevant relationships.

According to the project manager, this method aimed to determine which factors were affecting each other and ensure that the process would address the 'root causes' of the conflict and not only its 'symptoms.' The differentiation between 'root causes' and 'symptoms' suggests that the method was partly driven by a sincere desire to identify 'really' existing causes and their effects. However, the exercise was also utilized to help participants question established views and reframe their perspectives on the conflict.

However, this exercise also had a subjunctive affordance, challenging established views and eschewing simple assumptions. Some participants found the relational, networked view of the conflict rather perplexing. As one team member put it, 'it confuses people (…) when everything is linked, and you see those arrows going left, right and everywhere.' However, as one participant recalled, the visualization of the results also helped them look at the priorities differently. The method thus encouraged the participants to challenge existing views and helped them to reframe their perspective on the conflict (compare to Hirblinger, 2023, p. 129). It was meant less to establish or support clear and definitive conclusions but to prompt new questions rather than shutting the discussion down by creating premature answers. Furthermore, the facilitators also used the outputs of the exercise to give the dialogue process a future-oriented spin by establishing clarity about the issues that should be further worked on. Stronger arrows in the network were meant to indicate that a larger proportion of the participants had identified a particular relationship, which merited that more attention was given to it.

Overall, the two exercises discussed above were less meant to establish epistemological certainty about the Yemeni conflict than about the diverging views of the heterogeneous set of stakeholders. They also created ontological uncertainty by challenging established beliefs and stances among the participants and encouraged normative certainty about the necessary next steps by providing an aggregate and common view about what mattered most. Importantly, the methods only enabled a momentary subjunctive orientation towards the future and were not in themselves sufficient to sustainably influence the peace process. However, they could serve as a basis for more concrete peace-support activities. For instance, in follow-up activities, a group of women stakeholders used the outcomes of the prioritization to draft policy recommendations that were shared with international stakeholders and the UN Office of the Special Envoy for Yemen.

Libya: developing a joint vision and road map

Since the public protests, armed insurgency, and foreign intervention that led to the fall of Muammar Ghaddafi in 2011, Libya had been plagued by political instability due to the absence of a coherent leadership that would have been able to develop functioning

institutions and unify diverse armed groups. In 2014, an unfolding power struggle between a myriad of armed factions led to the formation of a broader alliance under General Haftar, pitched against the Tripoli-based General National Congress (GNC). As a result, the UN Support Mission for Libya (UNSMIL), tasked initially with supporting the country's political transition since 2011, began mediating between these two factions.

This case study focuses on CMI's support to the Libyan peace process through two interrelated dialogue activities that complemented UNSMIL's mandate by providing political parties an informal platform to develop relations, build trust and discuss issues of common concern. This involved regular online and in-person workshops in 2020 and 2021 to develop a vision for Libya's political future– the 'Vision 2040 for Libya,' as well as a roadmap defining concrete steps to implement this vision. In parallel, CMI facilitated a dialogue among a group of influential women stakeholders to develop a vision, particularly to empower women – the 'Political Party Women's Vision 2040.'

The project activities covered in this section occurred when the Libyan peace process faced many uncertainties. The UN-led peace-support efforts in the years before CMI's intervention, which culminated in the signing of the Libya Political Agreement in 2015, had largely been viewed as a failure (International Crisis Group, 2016). While a stalemate between the two factions emerged, both camps suffered from further internal fragmentation (Asseburg et al., 2018), and armed groups that operated largely 'outside the command-and-control mechanism of the government' proliferated (Wilson & Abouaoun, 2021). Profiting from external patronage by foreign states, the local groups often lacked clearly defined interests and negotiating positions, which led to blurred fault lines and often shifting alliances. Consequently, the military and political dynamics were hard to predict, which constituted a major obstacle to mediation and dialogue efforts. Furthermore, a joint visions of the future state seemed out of reach, given the mutually incompatible normative stances and antagonistic narratives, for instance between Islamist and secular forces.

During most of CMI's dialogue efforts, the armed conflict continued with full force. Changes in foreign policy by major international stakeholders, particularly the United States administration, emboldened the Khalifa Haftar-led Libyan National Army (LNA), which undermined efforts to hold a long-planned National Dialogue Conference (Droz-Vincent, 2021). While in July 2019, a UN-brokered truce promised to open the way to a permanent ceasefire, numerous violations were documented in the following months (UN Panel of Experts on Libya, 2021, p. 2). Overall, the combination of prevailing insecurity, complex conflict dynamics, and fluid alliances led to considerable uncertainties, including epistemic uncertainties about conflict party interests and normative uncertainty regarding how a joint vision for politics and society should look like.

The interplay of sincere and subjunctive affordances

As in Yemen, the facilitation team used an online video platform to arrange exchanges, especially when travel and in-person meetings were impossible due to the COVID-19 pandemic. The regular use of online communication and video conferencing technologies helped to shepherd the process forward by creating a routinized way of engagement (compare to Hirblinger, 2023, p. 125).
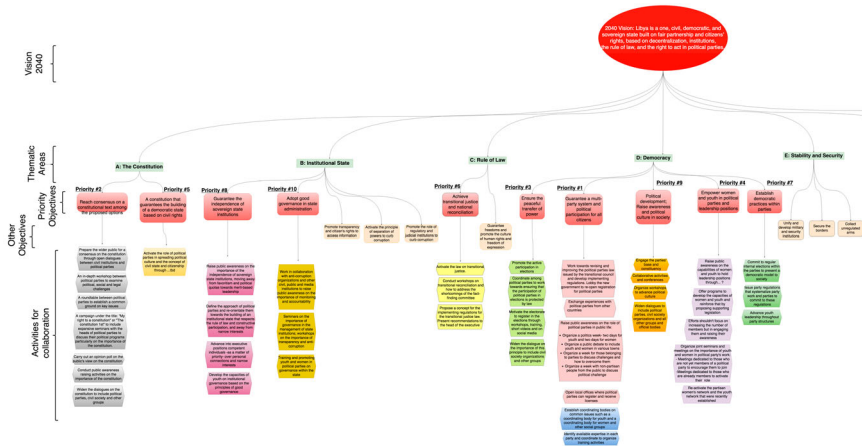
Figure 5. Illustrative example of the results of the road mapping exercise conducted in one of the Libya dialogue sessions. Generated with Mindomo Software.

More importantly, the beginning of the process was characterized by a rather loose and unstructured exchange of positions and opinions among the participants. To channel these conversations into a future-oriented process, the team employed an 'off-the-shelf' mind-mapping software to support the development of a joint vision by Libyan political parties called 'Mindomo.' Given the large number of aspects mentioned by the participants and their diverging views, the software was used to structure the dialogue. According to one facilitator, it provided 'a tool for [the participants] to think together but also to make sure that their joint thinking is happening in a systematic way.' As will be demonstrated in the following, this effort to structure the discussion carefully combined subjunctive and sincere elements, facilitating a process that would lead from a broad and general vision to more concrete goals and very detailed activities that could help implement it.

The conversation first focused on carving out a broad vision statement (documented in the red bubble in Figure 5 below), ambiguous enough to accommodate the views of all parties. Building on the result of an earlier process, namely a 'Charter of Principles' that the political parties produced with the support of CMI the year before, the facilitators suggested brainstorming the 'main issues' that the parties wanted to have covered in the vision. One of the facilitators extracted the main themes from the Charta and visualized them on a screen to support the discussions. This triggered a sincere discussion in which the participants voiced different preferences about what should be included or excluded. However, the facilitators insisted that the vision statement should be very brief – it had to fit a single textbox and couldn't accommodate many details.

Moreover, they stressed that the vision was meant to capture Libya in the year 2040 and, therefore, it should not be distracted by present challenges, such as the continued delay of the political transition and the postponement of elections. As one facilitator put it, the vision 'didn't have the details – we took out anything descriptive.' This was important 'because a lot of times when people think about what they want, they also

include in that how they describe the (current) situation.' The combination of the facilitators' call to envision the future with the technical requirement of word length created a subjunctive attitude. It forced the participants to abandon a sincere concern for the present, which would have resulted in fine-grained and often diverging assessments of the status quo. Instead, it stimulated a subjunctive mode that shepherded the participants *toward a less clearly defined world* that *could be.*

The final version of the vision statement was reached not by vote but through consensus, and this required the removal of contentious formulations from the maps and the employment of less clear statements. For instance, the participants disagreed on whether Libya should be referred to as a 'unified country' or as 'one country' because some participants preferred a federal political system and others a centralized government. To accommodate the two different positions, the facilitators suggested the ambiguous formulation that 'Libya is one.' Its subjunctive quality enabled coping with the contradictory demands of the group, and the process could move ahead (compare to Dingley, 2005; Seligman et al., 2008, p. 12). Where an agreement about more detailed aspects could be reached, such as that Libya should be a civil state, not ruled by the military or a theocracy, this was included in the vision statement. Working jointly on the text on a shared screen enabled the facilitators to carefully probe the right level of sincere precision and subjunctive ambiguity that would allow all participants to agree to the final version. The mind mapping software helped keep track of the progress in the dialogue, as facilitators removed or added content and changed individual formulations at the request of the participants.

After the overall vision statement was agreed upon, the facilitators turned to operationalizing the vision. As one of the participants recalled, it seemed important to not just stick to 'broad lines' but to underpin the vision with clearly outlined activities. Using the horizontal tree design of the mapping software, the facilitators supported the participants in identifying more concrete themes, as well as specific goals and activities aligned with the themes. This process required a more sincere engagement that would go beyond an ambiguous version of a possible Libya. It made it necessary to envisage Libya's future in greater detail and agree on implementation activities that would start in the present. While still future-oriented, this part of the dialogue led participants into a discussion about whether Libya should be governed in this or that way – and escaping into more ambiguous formulations was no longer an option. This heightened level of sincerity at the later stage of the dialogue carried risks for the process. For instance, while the political party women's group ratified the vision document in a meeting in September 2021, the political parties' group could only ratify the vision and roadmap after the contentious theme of a centralized state vs. federalism mentioned above was removed from the map and the participants discussed to tackle it during a future constitutional process.

Furthermore, after the road map and vision were finalized, the team conducted a participatory prioritization exercise identical to the one in the Yemen process to establish a more fine-grained picture of the order of the necessary implementation steps. Given that the vision covered a 20-year time frame, the team viewed it as essential to know what to start with and what to implement at a later stage. Comparable to the Yemen process, the participants ranked the individual goals according to their feasibility and their urgency, and the assessment results were displayed on a quadrant plot. The priority of each goal was calculated out of the aggregate value of feasibility and urgency, with goals that had

high feasibility and high urgency to be tackled first, thus creating an actionable output around which participants could collaborate in the future. According to one facilitator, this gave 'credibility to the vision because the vision is nice and sweet (…) but if you can work towards it, then definitely it gives it more value.' Overall, this mapping exercise combined sincere and subjunctive elements: it enabled a future-oriented attitude by documenting what could be agreed upon among the group of participants in as much sincere detail and with as much subjunctive ambiguity as necessary to achieve consensus. And it asked the participants which of the identified goals and activities were most urgent and feasible to implement, which not only encouraged them to imagine more peaceful future arrangements but also to start working towards them.

Conclusion

Digital technologies commonly come with a scientific appeal – they promise to generate more data and information that purport to objectively capture the world as it really is. On the other hand, futurists may hope that the increasing role and influence of digital methods could bring radical change by helping to establish more peaceful societies that leave the past and present of conflict behind. However, not only is sufficient empirical certainty about what drives conflict and what could help resolve it usually difficult to come by – the difficulty of knowing, predicting, and planning with epistemic certainty also intersects with the ontological and normative dimensions of un-certainty, manifest in the conflicting narratives, beliefs, values, and stances that conflict stakeholders tend to hold. This limits the possibilities of a purely evidence-based approach to peacemaking, as well as the prospects of a radically different future. Nonetheless, our article has demonstrated that digital methods can support future-oriented peacemaking.

Technology affordances that enable a sincere engagement with the world, such as methods to collect and analyze information for conflict analysis, undoubtedly play an important role in dialogue efforts. However, so do subjunctive technology affordances that keep the participants from arguing about whether a conflict is driven by this or that or whether one or another solution has a bigger potential to resolve conflicts. Sincere uses of data-driven methods can lead dialogues into dead ends, for instance, when they produce conflicting assessments or when they simply document or display rather than transcend divisions between conflict parties. This is where subjunctive affordances fullfil an important supplementary task, as they help challenge established views and reframe perspectives – not only by producing alternative evidence but through data interpretation and visualization exercises that change how participants relate to the conflict. Rather than engaging in fine-grained discussions about past and present aspects of the conflict, the facilitators used the various digital methods to initiate a contingent call for action oriented towards the future, thus eschewing the need to reach a 'final understanding' and 'just do what has to be done' (compare to Seligman et al., 2008, p. 114).

However, our article likewise suggests that enabling subjunctivity is not a stand-alone recipe for peacemaking. Used in a process-oriented manner, in flexible sequences, and in combination with careful human facilitation, both sincere and subjunctive technology affordances are necessary to move dialogue processes toward

the future. In combination, they can help to engage the epistemic, ontological, and normative dimensions of un-certainty that stand in the way of a settlement of conflict. This means that the collection, analysis, and visualization of data do much more for dialogues than aiming to reduce epistemic uncertainty. Indeed, dialogue facilitators may employ data and information in ways that may not be sincerely concerned with their evidence value. Often, they go beyond a mere cognitive engagement with the conflict towards confronting the participants on an emotional and existential level – by challenging their established values and beliefs. This commonly leads to moments of confusion and cognitive openings, which help to seek a distance from – and reframe – the past and present of conflict. Yet these effects will only bear fruit if channeled into processes that are ultimately action-oriented, and this often requires at least *some* degree of sincerity, for instance through an engagement with how future political institutions should be organized.

Our article also underlines that the effects of computer-based facilitation methods on dialogues can't be thought of in separation from the human participants involved in the process. As our case studies demonstrate, the design and choice of software, including the options for the input, processing, and visualization of data, tend to matter to a great degree. However, these methods are more than purely digital, as they involve the combination of computer-based exercises with facilitated interpersonal dialogue, which creates tangible and experiential results because it is also a visceral and interpersonal experience.

Finally, dialogue facilitation efforts such as those carried out by CMI tend not to bring about comprehensive and lasting political settlements, but they form part of complex, multi-track efforts that may jointly generate political momentum. This also means that the approach discussed in this article does not create radically alternative futures that break with the past. The change processes that it enables ultimately remain path dependent and, to some degree, rooted in the participants' sincere expressions of the past and the present as it is. Participatory peacemaking is often about creating temporary orders – not built on indisputable truths – but carried forward through the steadfast sense that the path towards a more peaceful future is possible if those in conflict carefully navigate between the world they experience and a more peaceful world that could or should be. The interplay of sincere and subjunctive technology affordances plays an important role in such efforts.

Note

1. Many of the steps discussed here were supported through software provided by the Finish company Inclus, see https://inclus.com/.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

Notes on contributors

Andreas T. Hirblinger is a senior researcher at the Centre on Conflict, Development & Peacebuilding (CCDP), Geneva Graduate Institute. His current research explores the effects of the increasing use of digital technologies by conflict parties, conflict stakeholders, and those who aim to make or build peace.

Ville Brummer is the Programme Director at CMI and overseas the design and implementation of CMI's programmatic work across Africa, the Middle East, Eastern Europe, and Central Asia.

Felix Kufus is a Digital Peacemaking Consultant at CMI. He advises CMI's regional teams on using digital tools and methods for conflict prevention, mediation and peacebuilding.

ORCID

Andreas T. Hirblinger 🔴 http://orcid.org/0000-0003-1193-1903

References

Arana-Catania, M., van Lier F.-A., & Procter, R. (2022). Supporting peace negotiations in the Yemen war through machine learning. *Data & Policy*, 4, e28. https://doi.org/10.1017/dap.2022.19

Asseburg, M., Lacher, W., & Transfeld, M. (2018). *Mission impossible? UN mediation in Libya, Syria and Yemen* (SWP Research Paper No. 8; p. 64). German Institute for International and Security Affairs.

Bilich, J., Varga, M., Masood, D., & Konya, A. (2019). *Faster peace via inclusivity: An efficient paradigm to understand populations in conflict zones.* AI for Social Good workshop at NeurIPS, Vancouver, Canada.

Byman, D. (2018). Yemen's disastrous war. *Survival*, 60(5), 141–158. https://doi.org/10.1080/00396338.2018.1518376

CMI. (2013). *Foresight for conflict prevention in the Middle East* (Phase II: Recommendations for policy action) [Final report]. CMI – Martthi Ahtisaari Peace Foundation.

Conole, G., & Dyke, M. (2011). What are the affordances of information and communication technologies? *Research in Learning Technology*, 12(2), 113–124. https://doi.org/10.3402/rlt.v12i2.11246

Dingley, J. (2005). Constructive ambiguity and the peace process in Northern Ireland. *Low Intensity Conflict & Law Enforcement*, 13(1), 1–23. https://doi.org/10.1080/09662840500223531

Droz-Vincent, P. (2021). La Libye toujours en prise avec les interventions: De l'intervention internationale de 2011 à l'escalade et la multiplicité d'interventionnismes extérieurs. *Hérodote*, 182 (3), 109–127. https://doi.org/10.3917/her.182.0109

Groves, D. G., & Lempert, R. J. (2007). A new analytic method for finding policy-relevant scenarios. *Global Environmental Change*, 17(1), 73–85. https://doi.org/10.1016/j.gloenvcha.2006.11.006

Haarhaus, T., & Liening, A. (2020). Building dynamic capabilities to cope with environmental uncertainty: The role of strategic foresight. *Technological Forecasting and Social Change*, 155, 120033. https://doi.org/10.1016/j.techfore.2020.120033

Hegre, H., Karlsen, J., Nygård, H. M., Strand, H., & Urdal, H. (2013). Predicting armed conflict, 2010–2050. *International Studies Quarterly*, 57(2), 250–270. https://doi.org/10.1111/isqu.12007

Hirblinger, A. T. (2022). When mediators need machines (and vice versa): Towards a research agenda on hybrid peacemaking intelligence. *International Negotiation*, 27, 1–32. https://doi.org/10.1163/15718069-bja10050

Hirblinger, A. T. (2023). Building a peace we don't know? The power of subjunctive technologies in digital peacebuilding *Peacebuilding*, 11(2), 113–135. https://doi.org/10.1080/21647259.2022.2154957

Hirblinger, A. T., Wählisch, M., Keator, K., McNaboe, C., Duursma, A., Karlsrud, J., Sticher, V., Verjee, A., Kyselova, T., Kwaja, C. M. A., & Perera, S. (2023). Forum: Making peace with uncertainty: Reflections on the role of digital technology in peace processes beyond the data hype. *International Studies Perspectives*, ekad004. https://doi.org/10.1093/isp/ekad004

Hutchby, I. (2001). Technologies, texts and affordances. *Sociology*, 35(2), 441–456. https://doi.org/10.1177/S0038038501000219

International Crisis Group. (2016). *The Libyan political agreement: Time for a reset* (Middle East and North Africa Report No. 170). International Crisis Group. https://www.crisisgroup.org/middle-east-north-africa/north-africa/libya/libyan-political-agreement-time-reset

International Crisis Group. (2020). *Rethinking peace in Yemen* (Middle East and North Africa Report No. 216). International Crisis Group.

Jenny, J., Greenberg, R., Lowney, V., & Banim, G. (2018). *Peacemaking and new technologies: Dilemmas & options for mediators* (No. 8; Mediation Practice Series, p. 56). Centre for Humanitarian Dialogue.

Khashman, Z., & Khashman, A. (2017). Modeling people's anticipation for Cyprus peace mediation outcome using a neural model. *Procedia Computer Science*, 120, 734–741. https://doi.org/10.1016/j.procs.2017.11.303

LexisNexis. (2022). *What is PESTEL analysis | risk monitoring tool.* https://internationalsales.lexisnexis.com/glossary/compliance/pestel-risk-monitoring

Mapendere, J. (2005). Track one and a half diplomacy and the complementarity of tracks. *COPOJ – Culture of Peace Online Journal*, 2(1), 66–81.

Mietzner, D., & Reger, G. (2005). Advantages and disadvantages of scenario approaches for strategic foresight. *International Journal of Technology Intelligence and Planning*, 1(2), 220. https://doi.org/10.1504/IJTIP.2005.006516

Miles, I., Meissner, D., Vonortas, N. S., & Carayannis, E. (2017). Technology foresight in transition. *Technological Forecasting and Social Change*, 119, 211–218. https://doi.org/10.1016/j.techfore.2017.04.009

Reichertz, J. (2014). Induction, deduction, abduction. In U. Flick (Ed.), *The SAGE handbook of qualitative data analysis* (pp. 123–135). SAGE Publications, Inc. https://doi.org/10.4135/9781446282243.n9

Seligman, A. B. (2009). Ritual, the self, and sincerity. *Social Research: An International Quarterly*, 76(4), 1073–1096. https://doi.org/10.1353/sor.2009.0007

Seligman, A. B., Weller, R. P., Puett, M. J., & Simon, B. (2008). *Ritual and its consequences: An essay on the limits of sincerity*. Oxford University Press.

UNDPPA, & HD Centre. (2019). *Digital technologies and mediation in armed conflict*. United Nations Department of Political and Peacebuilding Affairs and Centre for Humanitarian Dialogue.

UN Panel of Experts on Libya. (2021). *Letter dated 8 March 2021 from the Panel of Experts on Libya Established pursuant to Resolution 1973 (2011) addressed to the President of the Security Council* (S/2021/229). UN. https://digitallibrary.un.org/record/3905159

Varela, M. (2021). Technology and peace mediation: A shift in the mediator's profession. In C. Turner (Ed.), *Rethinking peace mediation: Challenges of contemporary peacemaking practice* (pp. 311–335). Bristol University Press.

Wählisch, M. (2020). Big data, new technologies, and sustainable peace: Challenges and opportunities for the UN. *Journal of Peacebuilding & Development*, 15(1), 122–126. https://doi.org/10.1177/1542316619868984

Welch, J. R., Halford, S., & Weal, M. (2015). Information and Communication Technologies (ICTs) and peacebuilding: A conceptual framework. *Proceedings of the ACM Web Science Conference*, 1–9. https://doi.org/10.1145/2786451.2786479

Wilson, N., & Abouaoun, E. (2021, July 14). *On the road to peace, Libya makes progress but Hits Pitfalls*. United States Institute of Peace. https://www.usip.org/publications/2021/07/road-peace-libya-makes-progress-hits-pitfalls