

What If We Were There? A Counter-Factual Call for IR to Engage with Material-Technological Making

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International relations (IR) shows growing interest in expanding its practical engagements into different domains: the visual, the artistic, the aesthetic, the diagrammatic, and so forth. But a gap remains. Despite widespread acknowledgment of the political transformations caused by material and technological change across world politics, IR rarely fully integrates forms of material-technological praxis into its work. We rarely make digital, architectural, computational, or other seemingly technical things within IR. This article suggests we should start doing so, in direct collaboration with practitioners, applied scientists, and technical experts. Specifically, it suggests that engaging in material-technological making has the potential to (1) increase our basic scientific knowledge of politics, (2) augment our capacity to theorize politics, and (3) radically expand how we normatively and politically intervene in politics. To make that argument, the paper conducts a speculative form of counterfactual analysis of the kind of “difference” that might have been made if scholars of IR had been involved in the development of three technologies designed by the International Committee of the Red Cross for humanitarian purposes. In doing so, we show that the exclusion of the material-technological from IR’s praxis is not only damaging to its vitality as an intellectual field, but also an abdication of what Haraway terms its ethico-political response-ability within politics.

Les relations internationales (RI) font montre d’un intérêt croissant quand il s’agit d’élargir leurs implications pratiques à différents domaines : le visuel, l’artistique, l’esthétique, le diagrammatique, etc. Mais un écart subsiste. Malgré la large reconnaissance des transformations politiques provoquées par les changements matériels et technologiques en politique mondiale, il est rare que les RI intègrent entièrement des formes de pratique matérielle-technologique dans son travail. Nous pratiquons rarement du numérique, de l’architectural, du calcul ou d’autres éléments techniques dans les RI. Il est temps que nous commençons d’après cet article, en étroite collaboration avec des professionnels, des scientifiques appliqués et des experts techniques. Plus précisément, il suggère que de produire matériellement et technologiquement pourrait 1) enrichir nos connaissances scientifiques de base en politique, 2) accroître notre capacité de théorisation politique et 3) élargir radicalement notre intervention normative et politique en politique. Avant d’émettre une telle affirmation, l’article se prête à une forme spéculative d’analyse contre-factuelle du type de « différence » qui aurait pu être établie si les chercheurs en RI avaient été impliqués dans le développement de trois technologies conçues par le Comité international de la Croix-Rouge (CICR) à des fins humanitaires. Ce faisant, nous montrons que l’exclusion du matériel-technologique de la pratique en RI dessert sa vitalité en tant que domaine intellectuel, mais constitue aussi une abdication de ce que Donna J. Haraway appelle « la capacité de réponse éthico-politique » en politique.

El campo de las Relaciones Internacionales (RRII) muestra un creciente interés en expandir sus compromisos prácticos hacia diferentes dominios: el dominio visual, el dominio artístico, el dominio estético, el dominio diagramático, etc. Sin embargo, sigue existiendo una brecha: a pesar del reconocimiento generalizado de las transformaciones políticas causadas por los cambios materiales y tecnológicos que han tenido lugar en la política mundial, las RRII rara vez consiguen integrar por completo formas de praxis material-tecnológica en sus trabajos. Rara vez las RRII utilizan herramientas digitales, arquitectónicas, computacionales u otros medios aparentemente técnicos. Este artículo sugiere que deberíamos comenzar a hacerlo, en colaboración directa con profesionales, científicos aplicados y expertos técnicos. De manera más concreta, el artículo sugiere que la participación dentro de esta creación material-tecnológica tiene el potencial de 1) aumentar nuestro conocimiento científico básico de la política, 2) aumentar nuestra capacidad para teorizar la política, y 3) expandir radicalmente la forma en que intervenimos, tanto de forma normativa como política, dentro la política. Con el fin de argumentar todo esto, el artículo utiliza una forma especulativa de análisis contrafáctico con relación al tipo de «diferencia» que podría haber tenido lugar si los académicos de las RRII hubieran participado en el desarrollo de tres tecnologías diseñadas por el Comité Internacional de la Cruz Roja (CICR) con fines humanitarios. Con todo ello, mostramos que la exclusión de lo material-tecnológico de la praxis de las RRII no solo es perjudicial para su vitalidad como campo intelectual, sino también supone una abdicación de lo que Haraway denomina su capacidad de respuesta ético-política dentro de la política.

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International relations (IR) shows growing interest in expanding its quotidian praxis beyond the epistemic and the textual. As this special forum attests to, scholars are experimenting with integrating extra-linguistic, artistic, aesthetic, and craft-based modes of “making” into their research. This work has been especially influenced by the aesthetic and visual turns, as well as work on affect, emotion, and the sensory in world politics.¹ The logic is clear: If politics is also visual, aesthetic, affective, and sensible, then surely our methods must also engage with “other, fleshier, recording machines,” and artistic practices (Simpson 2011, 350). This shift has emerged alongside a growing interest in the material, technological, and digital. Indeed, many artistic or aesthetic tools have been used to interrogate our “posthuman” contemporary condition.² At the same time—however—most scholars have been reluctant to engage concretely with material-technological forms of making. Instead, the preference has been for critiquing material-technological politics. But why is this the case? Why has it been comparatively straightforward for researchers to integrate the value of artistic and aesthetic praxis while remaining reticent to begin making material-technological international things? These questions are especially puzzling given, symmetrically to its reasons for engaging with aesthetic and artistic making, much of IR now takes seriously *at an analytical level* the principle that world politics is fundamentally material-technologically mediated. As such, it would seem equally logical to explore the value of integrating material-technological making into our praxis. But why—then—has this not occurred?

To begin answering this question, it is interesting to note that a symmetrical affinity for engaging with the artistic or the aesthetic exists within the natural, hard, computing, and engineering sciences. Often, technical specialists collaborate directly with the arts and humanities. The CERN research center, for instance, funds an array of artistic residencies and collaborations, explaining that:

Art is a knowledge-driven field, while science is an area that contributes greatly to our society and is a pillar of contemporary culture. Therefore, artists and scientists are often following common paths...³

For their part, artists have long embraced engagement with the natural and physical sciences as a means of inspiration for their own work (Myburgh 2022). To some degree, the acceleration of these collaborations represents an attempt to deal with Snow’s (2012) classic description of the division between the “two cultures” of the science and the humanities. In recognition of our ever-accelerating embeddedness in computational assemblages that influence every aspect of life, the natural and engineering sciences (as well as the governments and corporations who deploy the tools they develop) have sought to ally themselves more closely with the humanities and the arts to explore ethical and political consequences (Hayles 2022).

But what of social sciences like IR?

In a later comment on his *Two Cultures* lecture, Snow (2012, 70) noted an omission in his original account. A “third culture” in which he grouped “social history, sociol-

ogy, demography, political science, economics, government (in the American academic sense), psychology, medicine, and social arts such as architecture.” He wrote that for this culture “to do its job. . . [it must] be on speaking terms with the scientific one” (Snow 2012, 71). That job was not simply “escaping the dangers of applied science” but “doing the simple and manifest good which applied science has put in our power,” something “more demanding of human qualities” (Snow 2012, 99). With the exception of architecture, medicine, and cognate practically oriented fields, we would venture that this job has not been achieved. What are generally deemed the “core” social sciences rarely engage with science and engineering in the terms Snow would understand, and critical varieties therein even less frequently. Instead, they tend to remain preoccupied with flagging “the dangers of applied science.”

In this article, we advocate for moving beyond this reluctance and for bringing IR into “speaking terms” with material-technological forms of science and making. We define these forms of making in broad terms, given the complexity surrounding them. But generally, we are referring to a spectrum of material objects that serve “functional” roles in society that *exceed* (1) the dissemination of epistemic knowledge (e.g., books) and (2) the generation of reflexivity, affect, or thought (e.g., the arts, humanities). This includes objects that *seem to be* technical or problem-solving tools (encrypted digital vaults, camera systems, etc.) but extends also to those that more obviously mix the functional with the aesthetic and/or reflexive (e.g., virtual reality platforms). Indeed, it is important to stress that we are focused on objects that *exceed* epistemic or logocentric knowledge and/or the injection of reflexivity, affect, etc. into life, *not the exclusion of these qualities* from the material-technological. In this, our definition is closer to the lay or colloquial understanding of “technology,” which would generally—if problematically—likely exclude objects like books or works of art.

Importantly, our goal in focusing on this understanding of the material-technological is to stress that there exists untapped empirical, conceptual, and ethico-political value of engaging not only with aesthetic and artistic modes of making but also with *what seem* to be technical and problem-solving tools. Our reasoning is three-fold. First, we argue that it is not justifiable to reduce material-technological forms of design and making to the technical and problem-solving. On the contrary, science and technology studies (STS) has long shown the socially orientated nature of such objects, as well as their entanglement with the aesthetic (Austin and Leander 2021). Indeed, while much applied science problematically and implicitly relegates the aesthetic, epistemic, or reflexive to “non-material” and “non-technological” realms, an inverse tendency exists within the social sciences to exclude the aesthetic, affective, reflexive, epistemic, etc. from the work of applied scientists. As such, the overarching principle of this special forum that “making is thinking” applies equally to engagements with material-technological making. Indeed, we suggest that engagement of this kind is not only important for ethical, political, and critical reasons but also analytically: refusing to participate in material-technological making limits our conceptual and empirical knowledge of the world.

Second, we suggest that while the obstacles to the radically transdisciplinary and transvocational work implied in engaging in material-technological making within IR are both real and imposing, they are not insurmountable. It is possible to develop new forms of more radically defined “collaborationism” in order to engage in forms of

expertise; (iv) the politics of academic research in International Relations. She is currently a principal investigator on the projects *Infrastructuring Democracy: The Regulatory Politics of Digital Code, Content, and Circulation* and *The Future of Humanitarian Design*.

¹For reviews, see Bleiker (2001, 2018), Åhäll (2018), and Callahan (2020).

²For reviews, see Wolfe (2010), Leander (2021), Aradau and Blanke (2022), and Austin (2023).

³See <https://arts.cern/about>.

material-technological making at a concrete level (Leander 2020). Third, we argue that IR possesses competencies that have a core significance and place in all stages of “technical” making. Indeed, central to our argument is the fact that many applied scientists, practitioners, and other relevant actors engaged in material-technological making are actively attempting to incorporate social scientific knowledge into their work *themselves* while simultaneously seeking collaborations with social scientists, a request that we believe researchers have the ethical responsibility to respond to affirmatively and openly. Indeed, doing so, we suggest, may be the best avenue toward helping to transform the pathologies of today’s digital age.

To unpack this reasoning, we anchor our discussion around three examples of digital technologies developed and deployed by the International Committee of the Red Cross (ICRC). Our argument unfolds, in relation to these examples, in three parts. First, we discuss precisely why (most of) IR has been reluctant to engage with material-technological making. Second, we tease out why engaging in material-technological making may be of such importance: exploring how this task matters at analytical, empirical, and socio-political levels. Third, the core of our discussion centers on a “counter-factual” analysis of the difference it might have made if IR had been present in the design, making, and implementation of three ICRC technologies. Digital humanitarian technologies of these kinds have been the subject of intense critique within IR (Burns 2014; Jacobsen 2015; Duffield 2016). By contrast, our argument—albeit speculative and counterfactual—demonstrates the political “response-ability” for social scientists to become engaged in work of this kind, rather than remaining within the safe terrain of post-hoc critique and/or conceptual reflection (Haraway 2016; Austin and Leander 2021). To conclude, we underscore the ethical implications of our argument. Academia’s focus on the post-hoc critique of material-technological politics limits its critical capacity to forestall possible harms and imagine progressive roles for the material and the technological. To return to Snow, the question remains how the “third culture” of social science can help us not only escape the “dangers” of applied science but also harness the “manifest good” it often possesses.

Who’s Afraid of Material-Technological Making?

Why is IR not already engaged with material-technological making? In what follows, we unpack that question through the example of humanitarian technologies. We do so because this is one especially controversial place in which digital technologies are infiltrating politics. For example, their affordances are now central to the activities and operations of the ICRC. The ICRC’s quotidian work is mediated through computers, smartphones, databases, and more. It also seeks to develop specific uses for digital technologies that enhance its activities. Consider three examples: the *Red-Safe* platform, the *Trace the Face* facial recognition tool, and *The Right Choice* virtual reality film. To take each in turn, *Red-Safe* is a:

Secure service delivery platform built, owned, and controlled by the ICRC. In an age of mass data collection and monetization, RedSafe is just that: safe. The platform was first deployed this year, in Southern Africa, where it is providing reliable information and document storage facilities to migrants, via a free smartphone app.⁴

For its part, *Trace the Face* is a tool developed for the ICRC’s Central Tracing Agency (CTA) and its Family Links Network that harnesses facial recognition technologies in order to provide:

Greater agency for persons separated as a result of migration. It allows persons looking for loved ones to have their photos uploaded to a website, which can then be searched by anyone seeking to find their missing relatives, and allowing them to search through all the photos already posted.⁵

Finally, *The Right Choice* is an “immersive virtual reality movie” that:

... puts users next to a Syrian family trapped in urban warfare. The film, a collaboration between the International Committee of the Red Cross (ICRC), Google’s Daydream Impact Project and the creative agency Don’t Panic London, uses a simulated experience to help people understand urban warfare and its impact on real lives.⁶

Each of these examples demonstrates how the ICRC is investing in digital technologies and embedding them within its broader ecology of practices. We will return to each as this paper progresses. At a general level, however, it is first worth noting that IR scholars have already devoted considerable attention to analyzing the development of technologies like these and their consequences.

Typically, the tone of that engagement is critical at multiple levels. First, the field has pointed to dangerous unintended consequences intrinsic to these technologies, such as risks to privacy, safety, data security, and so on. These fears are far from unfounded, as a 2022 cyberattack on the ICRC and a data breach of personal details, including those of “missing people and their families, [and] detainees” made clear.⁷ Secondly, at a more political level, it is suggested that the embrace of these technologies furthers a shift away from addressing the root causes of humanitarian crisis toward an embrace of humanitarian “innovation” in ways that present “first order political problems. . . as heuristic challenges to be sidestepped and rendered profitable through smart technology, agile design, and private acumen” (Duffield 2019b). The result is posited to be a dangerous depoliticization of humanitarian action and erasure of the “human” within its politics. Third, and more radically, Amoores (2023) describes how the activities of organizations like the United Nations High Commissioner for Refugees (UNHCR) are now flowing through “machine learning political orders” that “reduce the pluridimensionality of politics to the output of a model” in ways that “foreclose the potential for other political claims to be made and alternative political projects to be built.” In this reading, the issue is not simply techno-solutionism, but a fetishization of (emerging) technologies that sees “the political problem [of humanitarian crisis, etc.] constituted by the posited solution” (Amoores 2023, 9). Amoores reads this as an inversion of an earlier functionalist paradigm in which “the solution [to a social dilemma] is a function of how the problem was framed” (Amoores 2023, 9). For her, this generates a “retroactive” political logic in which the adjustment of a technological model shifts the definition of a social problem, reducing the status of that problem to technical parameters rather than political contestation.

⁵See <https://tinyurl.com/ydj4xx7j>.

⁶See <https://www.icrc.org/en/document/war-front-door-virtual-reality-challenge-inside-urban-conflict>.

⁷See <https://www.icrc.org/en/document/cyber-attack-icrc-what-we-know>.

⁴See <https://blogs.icrc.org/inspired/2022/01/11/inside-redsafe-the-icrc-new-digital-humanitarian-platform/>.

Whatever the substance of the critique, the ultimate concern across IR is with the depoliticizing nature of the material-technological, encouraged through a problem-solving logic. To some degree, this concern also connects to a historical fact mentioned in the introduction to this special forum. Not *all* of IR is reluctant to engage with material-technological making. Especially notably, a long-standing symbiosis between (particularly Anglo-American) political science, strategic studies, the state, and military science continues to this day. For example, much of deterrence theory can be interpreted as seeking to “smooth” the operations of Cold War-era military techno-science, eschewing political debates over alternative possibilities (Cohn 1987). Such work continues today, connecting developments in Artificial Intelligence to implications for nuclear deterrence and beyond (Johnson 2020). More broadly, the integration of segments of Anglo-American political science directly into policy-making communities (viz entities like “Chatham House”) has seen the involvement of scholars of IR in these spheres but largely done so in Cox’s (1986) classical understanding of problem-solving interventions that help “smooth the functioning” of the social system.

Our interest is thus to engage with a broad “critical” social scientific community that studies the material-technological but refuses to engage with its praxis. For scholars working within “critical theory” but also postmodern, poststructuralist, Marxist, or any other related tradition, such a refusal is primarily grounded in the importance of maintaining a reflexive “critical distance” from practice (Austin 2022). Engaging with material-technological making is considered incompatible with such critical distance, particularly if it involves working with governments or corporations who are seen as unsuitable “companions” for critical social science (Austin, Bellanova, and Kaufmann 2019). By contrast, these same scholars often see artistic or aesthetic modes of making as compatible with, or helping to enhance, critical distance because of an (assumed, if problematical) inherent reflexivity within aesthetic praxis. Art is assumed to be open to further political contestation and intervention, while the black boxes of material-technological objects are often depicted as beyond contestation (Latour 1987). For Amore and many others, the main role of scholars is thus to “re-define the problem” in political terms. Relating this to the ICRC technologies introduced above, such a process of re-problematization might serve to show that the core goal of *The Right Choice*—increasing empathy for victims of warfare—is misleading. Instead, it might encourage us to focus on the problematic aspects of the techno-solutionism of VR and realize that it is unnecessary if socio-political relations could be transformed such that racialized Others were gifted equal sympathy to that self-accorded the Global North (those most likely to donate to the ICRC, etc. in the first place). Within this perspective, (erasing) the problem *is* the solution, and so engagement with the material-technological is a distraction.

Our view is that this status quo stems from a limited and partial reading of the purposes of critical theory. In Cox’s (1986, 130) classic text, it is stressed that “critical theory is. . . not unconcerned with the problems of the real world. Its aims are just as practical as those of problem-solving theory.” Its desire is simply to generate practical interventions that transcend those “of the existing order” (Ibid). Equally, the focus of Cox on critical theory containing only a “utopianism. . . constrained by its comprehension of historical processes” and which hence must “reject improbable alternatives just as it rejects the permanency of the existing order”

has often been downplayed (Ibid). Importantly, contemporary shifts in IR’s critical theorizing have relied on similar sentiments, as articulated in pragmatist sociology, STS, and cognate perspectives that recognize the need for a “provisional closure” (see the introduction to this special forum) of critique in order to ground its precepts in “historical processes” and contemporary contingencies (Prasad 2021). From this more subtle reading of critical theory, there is no reason to exclude closer engagement with the material-technological from IR. Nonetheless, the instinct to do so remains.

This logic connects to a second reason for IR’s non-engagement with material-technological making: functional differentiation. Beyond the prosaic fact that few scholars in IR possess the requisite technical skills to make material-technological things (see the introduction to this special forum), the more substantive concern here relates to what Fitzgerald and Callard (2015) call the “regime of the inter-” that reproduces the idea that either “different domains of knowledge. . . address themselves to different kinds of objects” or, that there is “a hierarchized division of labor” that informs making. Such a conception reinforces the view that material-technological making “is not our job,” largely due to a prejudice that these “technical” forms of making do not involve thinking, theorization, or problematization (something the “artistic” is seen as amenable to). In consequence, IR scholars’ perception of their role in material-technological politics is generally limited to two modes: external critical engagement, as just discussed (see also Jahn 2021), or to forms of internal engagement that focus on what seem to be intrinsically “social science” related issues, such as ethics or gender-related concerns (Leese, Lidén, and Nikolova 2019).

Despite their importance, these modes of engagement limit IR’s capacity to transform the place of technology in our lives. The first mode—paradoxically—tends to purify politics as a humanist realm even when speaking of the material-technological. Moreover, while it vaguely gestures at the possibility of “reopening futures,” it usually demonstrates minimal concern for how this might occur (Amore 2023). The second, despite its more pragmatic mode of internal engagement, enshrines a fundamental distance between social scientists and the task of material-technological making. In each case, there is also a paradoxical situation in which scholars of IR “expect practitioners to be like them,” to understand their (academic often abstract) concerns and to devote time and resources to them (Ragandang 2022, 271). For example, this manifests in the suggestion that technological projects might have ended up differently if “a humanist had found her way. . . [into a] laboratory, attended the weekly lab meetings, asked questions, engaged in discussions, and suggested readings for the group to consider” (Hayles 2017, 130). Much as it is unrealistic to expect scholars of IR to be adept in the intricacies of sediment transport or convolutional neural networks, so suggesting esoteric social scientific readings for practitioners is unlikely to evoke much change.

In sum, IR and cognate social sciences are at an impasse. On the one hand, scholars are deeply concerned with the politics of the material-technological and its influence in world politics. On the other hand, their own conceptual predilections (and biases), as well as the sociological divisions between scientific fields, militate against the translation of those concerns into concrete material-technological change.

But need it to be like this?

Why Does Material-Technological Making Matter for IR?

A simpler explanation for IR's limited engagement with material-technological making is possible. For many, the pertinent question is how exactly engaging in material-technological making would matter. What would the field gain from doing so? Empirically? Theoretically? Methodologically? Normatively? How would an IR that engaged with material-technological making look? Would doing this not simply distract from IR's basic social scientific research? More, would such engagement not simply deepen the depoliticization and techno-fetishism associated with "adaptive design," which devalues socio-political analysis and, more seriously, enrolls it in the service of a neo-liberalism that deepens "global precarity" and undermines the very prospect of resistance-generating different forms of politics (Duffield 2019b)? To answer these questions, we can first consider Duffield's (2019a) nuanced critique of humanitarian technology and, in particular, his words that:

If technology is to play a useful humanitarian role, we have to make a choice. The easy road is to do nothing and submit to ever-deepening automation, remote management, and the robotisation of behaviour. The more difficult task... is to bring the oligarchic electronic atmosphere under democratic control.

Duffield's critique here is not of the technological *per se*, which he acknowledges might "play a useful humanitarian role," but of its "oligarchic" monopolization within certain social, political, economic, and other paradigms and the pathologies that they produce. The question is thus how it can play a "useful role" in humanitarian (or other) settings. The question is how we can politically transform the pathologies of our contemporary "electronic atmosphere." But how can this be achieved? For us, dwelling on this normative proposition provides clarity on why integrating material-technological *making* into IR would benefit the field in at least three main ways: epistemically, theoretically, and normatively politically.

First, it seems clear that reshaping the "electronic atmosphere" of our age requires that we gain a deeper and more precise understanding of what the material-technological "things" that IR is interested in actually are. Simply: to transform something, we must understand it. This task requires both reflexive distance from those technologies *and* an intimate entanglement with their contours of the kind that can only be achieved by "getting closer" to the nuts and bolts of material-technological making. At stake here is not simply the point that the closer we are to a thing, the better our understanding of it. Despite controversies, the importance of "strong objectivity" is clear (Harding 1986; Bourdieu et al. 1991; Leander 2016). Called for is a deep involvement in the *full process* of the design and making of material-technological things. As Ingold (2013, 7) writes, in the study of "material culture, the overwhelming focus has been on finished objects and on what happens as they become caught up in the life histories and social interactions of the people who use, consume, or treasure them." In this view, material-technological things like the ICRC's interventions are conceptualized as pre-baked objects or "black boxes" to be taken apart, unpacked, and considered in terms of their socio-political effects. While achieving this requires a deep knowledge of the objects themselves, what is lost in this focus on "finished objects" is a knowledge of the "generative currents of the materials of which. . . [these objects] are made" and the "sensory awareness of practitioners" (Ingold 2013,

7). To understand the first of these points, Ingold (2013, 6 emphasis added) makes an important distinction:

What... is the relation between thinking and making? To this [question], the theorist and the craftsman would give different answers. It is not that the former only thinks and the latter only makes, but that one *makes through thinking* and the other *thinks through making*. The theorist does his thinking in his head, and only then applies the forms of thought to the substance of the material world. The way of the craftsman, by contrast, is to *allow knowledge to grow from the crucible of our practical and observational engagements with the beings and things around us*.

It is this process of learning from "our practical and observational engagements" with the technological that is important. Acts of processual making produce a kind of "thought-in-motion" or "live thinking-and-knowing" (Cocker 2017, 124). This form of thinking opens up alternative ways of understanding the material-technological world, and its politics. At present, scholars often study technologies as pre-baked objects and infer political consequences. Facial recognition technologies, for example, are criticized for their imprecision, (racial, gendered, etc.) biases, unintended uses or consequences, and so forth (Introna and Nissenbaum 2009; Saugmann 2019, 2020). Because scholars are not fluent in the task of crafting such technologies, however, they rarely "think differently" about the alternative purposes to which they might be put, the actual processes through which these unintended consequences emerge, or help to "place them under democratic control" (Duffield 2019a). The result is a frequent appeal to *exclude* the material-technological from politics. But this would be analogous to a discourse analyst declaring that the impurities of language and its political manipulation means it should not be a part of politics. Given our vocational entanglement with the technology of writing, however, such a gesture would seem self-evidently absurd.

What is at stake here—then, and secondly—is the ways in which material-technological making produces more precise knowledge that, in turn, allows more accurate or appropriate forms of theorizing. This turns us to Ingold's second reference to the "sensory awareness of practitioners." Engaging in making introduces a practical knowledge of the material-technological that goes beyond language and hence which cannot be theorized without such engagement. Simply: engaging with technologies of making is crucial for theorizing their politics. This is especially so because the knowledge such engagement provokes is "unthought" (Hayles 2017). Shifts in the technologies used to record knowledge—from the pen, through the typewriter, to the radio, film, and computational technologies—have radically shaped what is thinkable and so possible to theorize (Kittler 1999). Without this embodied understanding of the "textility" of *all* forms of making, then, we impoverish our capacity to theorize about different trajectories for the material-technological that exist beyond its oligarchical control (Ingold 2010). Following this, the process of making material-technological objects must not be seen as secondary to cerebral activities. Instead, it provides an embodied and practical anchoring in which thought is produced through making, rather than the reverse (cf Mauss 1950). Something IR scholars have experimented with, e.g., in the context of military training (Higate 2017).

Finally, engaging in material-technological making is important for its capacity to broaden the genres of communication open to IR and, in doing so, augmenting its capacity to promote a distinct "electronic atmosphere" for the world.

This is true at multiple levels. The first can be seen through specific reference to the ICRC's *The Right Choice*. According to the ICRC:

The experience [of *The Right Choice*] gives viewers a choice in the face of attack. But in the end none of the options leads to a positive outcome, underscoring how war gives civilians nothing but bad options.⁸

Setting aside the efficacy of such interventions, involving IR scholars in the making of communicative technologies like these would consolidate and expand the wide interest in deploying images, films, theater, and exhibitions within the praxis of the discipline (for reviews, see the articles in this special forum and [Bleiker 2001](#); [Harman 2019](#); [Callahan 2020](#)). *The Right Choice* is an interactive form of visual mediation, intended to be immersive and go beyond a simple “communication” of the point of view of the ICRC itself through the co-creation of knowledge. With this tool, “the ICRC aims to better understand people’s perception of urban warfare and see how VR can influence behavior and build empathy for those affected by war.” This genre thus breaks with unidirectional models of communication, flattening the hierarchy between the designer and the viewer, allowing the latter to speak back and shape the former. Engaging with the material-technological affordances that allow such technologies to exist would equally allow IR to draw on such bi-directional modes of communication for advocating for a multiplicity of possible social changes or shifts, far beyond those specifically concerned (but still including) the material-technological. This is especially true given the “evocative” nature of material objects, which can work to promote the dissemination of knowledge more effectively than its textual or logocentric communication ([Turkle 2007](#); [Austin 2019](#)).

Relatedly, there is the question of our connection to practice. By engaging in these activities, IR would enact its knowledge as part of the practice it studies, bridging the gap between theory and practice that is especially acute in the material-technological realm. In doing so, IR might become more adept at achieving an ambition underlying much scholarship across the field: translating its knowledge into interventions capable of refashioning world politics. By engaging in making, IR would not only generate more precise knowledge, theorize more accurately, and communicate more broadly but also generate a capacity to intervene and advocate more effectively. At present, the role of social science scholars here is largely restricted to the task of what [Richard Sennett \(2008, 200\)](#) calls “static repair.” They are largely restricted (often against their will!) to working to “take something apart, find and fix what’s wrong, [and] then [to] restore the object to its former state” ([Sennett 2008, 200](#)). Because IR usually looks at material-technological things from the outside, as pre-baked objects, its capacity to “change the object’s current form or function once it is reassembled” is severely limited ([Sennett 2008, 200](#)). In consequence, scholars can highlight concerns vis-à-vis privacy, data protection, etc., which can then be addressed but not open up “alternative political futures” ([Amoore 2023, 16](#)). Because they are not embedded in the “generative currents” of making, and so usually lack the “sensory awareness” of practitioners, broader structural change is usually impossible.

As we will discuss below—however—an embeddedness in the full generative flow of making might also open up for

more radical interventions. Engaging in making would allow IR to develop the “knowledge that allows scholars to see beyond the elements of a technique to its overall purpose and coherence” ([Harper 1992, 21](#)). In this, scholars might be able to begin imagining engaging in forms of “dynamic repair” that “change the object’s current form or function once it is reassembled” ([Sennett 2008, 200](#)). And with this, we gesture at a final critical question: How could IR itself make a difference in material-technological making?

Would Involving IR Make a Difference?

So far, we have stressed what IR might gain from engaging in material-technological making and how this would transform the knowledge practices at the core of the discipline. But what can IR scholars add to processes of material-technological making? This question is absolutely critical because the functionally differentiated nature of material-technological making creates a “collaborate or perish” logic ([Bratton and Tumin 2012](#)). All technologies are created by teams whose skills vary dramatically: No single applied scientific specialist could conceive of and implement the ICRC’s *Trace the Face*, *RedSafe*, or *The Right Choice*. Equally, IR cannot engage in forms of material-technological making alone. Instead, it must cultivate transdisciplinary and transvocational relationships with a host of other very different fields. To do so, the value of adding IR to collaborative processes must be clear and convincing. This is especially true because social scientists have inadvertently cultivated the impression among applied scientists of being “unhelpful sceptics rather than. . . constructive team workers” ([Sørensen 2009, 96](#)). It is thus now time to shift from what making can do for IR to what IR can do for making. This is a difficult task. The constraints discussed earlier have restricted the capacity of even those willing to engage in material-technological acts of making to do so. As such, “real-world” examples of the contributions of IR to the practice of making material-technological things are hard to come by. The approach we take here is thus speculative and counter-factual. A playful attempt to imagine what kind of difference the presence of scholars of IR might have made in the development of material-technological objects within the context of the ICRC and its humanitarian mission.

We adopt this speculative approach to explore how specifically *collaborative and practice-orientated* processes of material-technological making could draw on the vitality of IR. Indeed, beyond IR scholars’ collaborative engagement in material-technological making at the behest of governments or corporations, there are other approaches that do not quite capture the stakes of our argument. On the one hand, scholars sometimes sub-contract technical specialists to produce, for example, mobile “apps” that communicate scientific knowledge to policymakers ([Bierstecker 2019](#)). In this instance, researchers remain at a distance from Ingold’s “generative flows” of making because these objects are simply an alternative means of disseminating epistemic knowledge. On the other hand, scholars sometimes engage in activist collaborations with technical specialists. For example, in an inspiring experiment, [Aradau, Blanke, and Greenway \(2019\)](#) assembled a team of social and computer scientists to reverse-engineer mobile apps designed to assist refugees. The group uncovered dangerous instances of data leakage within the code of one of the apps. They also developed a critique of the entanglement between humanitarian NGOs and big tech. This work demonstrates the power of trans-disciplinary collaboration, but it is not practice-orientated in the sense of seeking to construct

⁸See <https://www.icrc.org/en/document/war-front-door-virtual-reality-challenge-inside-urban-conflict>.

novel material-technological objects or to re-design their purposes. It limits itself to “static repairs” (to data leakage) and traditional social scientific critique, albeit now embedded in an unusually well-grounded understanding of the material-technological.

To tease out what IR can add to more holistic processes of material-technological making, and how such processes might look, we focus below on the main steps involved in the development of digital technologies (their conception/piloting, installation/operation, and repair/reformatting) to suggest that the presence of scholars of IR would be worthwhile from the perspective of the ICRC and the applied scientists already involved in developing each of the examples glossed above. Specifically, we argue that the ambivalent position of (critical) IR scholars can generate an array of benefits if integrated into the task of material-technological making. That ambivalence, which would straddle a concern for reflexivity, distance, and socio-political problematization with a desire to make concrete normative-political interventions—“to bring the oligarchic electronic atmosphere under democratic control”—may be key for opening up new imaginaries for material-technological interventions that are *not conceivable in their absence*. Indeed, if scholars embrace a form of “provisional closure” (see the introduction to this special forum) in their engagement with material-technological making, they may be able to combine current discursive forms of activism with material and aesthetic ones: “critical thought translated into materiality” (Dunne and Raby 2013, 35).

Conceptualization and Piloting

Let us start from the conceptualization of the ICRC’s *Trace the Face* and how IR scholars might contribute to it. *Trace the Face*’s developers were aware of the most common pitfalls in digital humanitarianism. Its program manager, Valdet Saiti, at the Central Tracing Agency (CTA) of the ICRC thus underscored that the app was not conceived out of a fascination for advanced technologies or belief in techno-fixes:

None of this technology is revolutionary but there is innovation in its application. How we tailor it is what makes it special. Our process landscape and the rules we base our solutions on often call for high customization. In many cases, we take what exists and develop it, adjusting it to our very specific humanitarian setting... We are not trying to upend proven methods... Rather, it is about leveraging the potential of technology to support traditional efforts to connect families.⁹

The program manager further signals awareness of the critical discussions surrounding facial recognition technologies and the ways in which these can easily be abused for a variety of purposes:

It can seem easy to develop a digital solution but developing a digital solution which we ensure would do no harm... is not as evident... Therefore, extreme caution is employed to ensure sufficient technical, organizational, and legal safeguards for all built solutions. An approach known as “Data Protection by Design and by Default” is applied every step of the way. This is congruent to the ICRC’s foundational “Do no harm” principle... Through smart algorithms, potential matches are brought forward. These matches are then evaluated by humans who determine the next course of action. In parallel, field workers continue to physically

search, such as exploring the last known places of missing persons...¹⁰

While scholars of IR have nuanced theories of the dilemmas of digital technology in humanitarian settings, the ICRC already seems well informed about the risks involved. As such, the abstract dissemination of conceptual social scientific knowledge is likely to be of limited value to the developers of *Trace the Face*.

This said, scholarly input might be useful at a more granular level. This may be particularly true, for example, in helping to achieve the ICRC’s desire for “high customization” or in the ambition to give “greater agency” to vulnerable populations. IR scholars might have assisted the team in working through the specific form general issues—such as those of techno solutionism and data protection that they raise—take in particular contexts, including how they vary across them. *Trace the Face* poses different problems in this respect for Ukrainian and Ugandan refugees. The relations and networks of which they form part vary in fundamental ways. Think of labor relations, family, religion, laws, forms of violence, political authorities, the broader conflict structures, etc. These contextual relations affect how *Trace the Face* might be (ab)used; for who will try to locate what people, for what reason, and how. As the welcome screen for *Trace the Face* used across the world clearly communicates, the platform is intended primarily for those in search of family members (Figure 1). Yet, not all families will find it equally easy to access the platform. For example, many of the Pakistani (or Afghans in Pakistan) potentially wishing to trace the members of their families would have little chance of ever finding their way to the welcome screen in Figure 1 given the limited digital literacy and resources in the areas they live in. Finally, those that do may have less innocent reasons (such as debt, political control, extortion, sexual abuse, revenge, etc.) for drawing on the affordances of the network.

Here, social scientists, including scholars of IR, have a role to play. They can contribute to thinking through how a technology such as *Trace the Face* can be conceived so as to serve the purposes they were intended for in the best possible manner and perhaps also reconceive that purpose. Collaborating *with* the developers—who must necessarily be there to reflect on what can and cannot be built into any technology—social scientists can think through how the technology in its conception might incorporate knowledge from the social sciences about the societies and contexts where it is to operate. Such engagement builds on longstanding work with local knowledge and contexts and, more than this, with an established practice of translating such contexts. And, of course, also a reflexive awareness of the limits, including the many problems and pitfalls inherent in such translations (Blaney and Tickner 2017; Tickner and Querejazu 2021).

It is important at this point to underscore that social science can provide something more and different from what is already available to practice-oriented organizations like the ICRC. Indeed, the ICRC is, of course, and obviously deeply embedded “on the ground” globally. They also have an important “operational research unit” that works at the interstices of academic and applied research.¹¹ So why not simply rely on them? Why involve IR scholars in the process? For obvious reasons, humanitarian organizations prioritize *acting*. They do so under very pressed conditions, with scarce resources, and often with very little advanced notice. This is

⁹See <https://tinyurl.com/4dxzp85x>.

¹⁰See <https://tinyurl.com/4dxzp85x>.

¹¹<https://www.icrc.org/en/what-we-do/operational-research>



Trace the Face: Reuniting families

Figure 1. Trace the Face. Available at <https://www.icrc.org/en/document/trace-face-reuniting-families>.

the backdrop for the common critique that “thematic” expertise is privileged over “local knowledge” in humanitarian action (Autesserre 2014, 72). Simply: devoting resources to study, and adjust to, the full diversity of possible local settings that exist globally can rarely be fully prioritized over, say, the more basic yet—ultimately—more urgent task of providing food or shelter. Institutions must make choices, and, typically, humanitarian organizations can only devote limited resources to carrying out research of this kind. Moreover, even when there are resources for research, humanitarian organizations will—again for obvious reasons—focus those limited resources on the matters most closely relevant to their operations.

The ICRC’s Center for Operational Research is open about these limits. Its head—Fiona Terry—writes that “the ICRC—like many humanitarian organizations—is lacking a research culture” (Terry, Kinsella, and Straus 2020, 187). Her work seeks to push the limits of that culture, given her dual positionality as an aid worker and researcher. The center she directs has, for example, pushed the ICRC’s understanding of its mission through the *Roots of Restraint* program, which explored the formal and informal behavioral norms of soldiers and fighters in different types of armed groups. It did so precisely by seeking to understand contextual differences across the ICRC’s sites of operations. More, that work involved deliberately mixing social scientific knowledge, including a call for research proposals on different armed groups, with the practice-based knowledge of the center. At the same time, the center faces the al-

ways complicated position of falling between two worlds. On the one hand, Terry stresses the lack of a research culture at ICRC but—equally—highlights that academics need to “take the time to understand the peculiarities” faced by practitioners and institutions like the ICRC (Terry, Kinsella, and Straus 2020, 193).

Indeed, it is important to reiterate that we are not calling for IR to simply offer its knowledge to institutions in its current form. This would—very simply—not work. Instead, we are calling for the full collaborative engagement of IR scholars across the chains of making that, eventually, result in the development of material-technological objects. In this “embedded” positionality, IR scholars would have to accept compromise as—for example—their extensive contextual knowledge would be seen as being “too academic” if presented in its traditional form (Terry, Kinsella, and Straus 2020, 197). As Terry writes of her own experience at the ICRC:

The uptake of research findings in an organization is the biggest challenge. I had to translate each 18’000 word report on each context studied [in *The Roots of Restraint*] into a 2000-word chapter and even then, I had people telling me it was too academic... one of our young associates at the time [also] came up with the idea of... summarizing it all into a fold-out blueprint with icons and point messages... In addition to making it something you had to read, making it something you could interact with a bit more, you

could hang on your wall... that really helped in terms of getting it into the field as a useful thing (Terry, Kinsella, and Straus 2020, 196).

IR would need to learn from experiences like these to translate its knowledge into practice, allying with groups like the ICRC's Center for Operational Research, whose own resources are understandably limited by institutional constraints, something that would demand a substantive shift in the self-image of scholars. Such an alliance would be especially important vis-à-vis the development of digital technologies, which are prone to drawing on off-the-shelf "one-size-fits-all" solutions presently. The deeply problematic and firmly rooted assumption that technologies are a sign of progress, worth cultivating for their own sake, effective, and politically neutral comes into play. As elsewhere, the humanitarian realm is permeated by "the values of technology" and the influence of managers striving to make "the world safe for technology" (Franklin 1992, 117, 120). In spite of decades of widespread commitment to moving beyond such a one-size-fits-all ethos, doing so remains difficult. Time and institutional pressures further accentuate these difficulties.

Integrating the research-oriented, slower, and broader knowledge of the social sciences and IR therefore matters. Such research might help build further contextual sensitivities into the conceptualization of technologies such as *Trace the Face*. It might also help the organizations deal with the critique that such technologies tend to come under. For example, the ICRC is considering discontinuing the use of *Trace the Face* because "informed consent" for some of the pictures in the database was either never asked for or has been lost. Bringing scholarly debates about the standing of informed consent forms (e.g., Eriksson-Baaz and Utas 2019) into the discussion could offer alternatives to simply abandoning it. In short, such insights might play into a re-conceptualization of the technology, something that now turns us to exploring the ways in which technological conceptualization and piloting are extended/iterative processes that run through the life of technologies such as *Trace the Face*.

Installing, Operating, and Connecting

We now turn to the potential role of IR scholars in making material-technological things beyond their initial conceptualization. Technologies like *Trace the Face* undergo constant change and evolution. They are never pre-baked objects. As such, their "conceptualization" is never done once and for all. On the contrary, it is an ongoing process. So, rather than being present just when the original version of *Trace the Face* was conceptualized and piloted, working with material-technological making requires (1) IR researchers to be present across the entire (iterative) process of material-technological making, ideally involving scholars from the start of the process; (2) that the issues scholars might raise do not rest at a general or abstract level but are specifically tailored to the concerned intervention; and (3) that scholars commit to the possibility of contributing concrete/pragmatic design solutions. To make a difference, IR scholars would take on a functionally differentiated role as specialists in designing the social, political, and ethical features of objects like *Trace the Face* not only across contexts but throughout the processes of installing, operating, and connecting them, as we now explore through the example of the ICRC's *The Right Choice* intervention.

Again, IR scholars would be engaging with an exceedingly competent group of experts. These include Sarah Steele,

VR Program Lead at *Google*, who connects the project to *Google's Daydream Impact Project*. She underscores that *Google* is "thankful to have partnered with ICRC to leverage VR for a vital mission: giving insight into a complex situation, and helping give a voice to those left behind." It also includes *Don't Panic London* that "always provides a social or environmental benefit to clients, consumers and the world" but that is also a professional advertising agency catering for conventional brands and charities. Finally, the project involves *Stoked Films* that introduces itself as "driven by passion for film making. . . with 25 years of experience in production."¹² IR scholars have little to teach these professionals about the intricacies of VR technology, film production, or similar mixes of technical and artistic practice. However, and again by engaging *with* them at the granular level of material-making, IR scholars actually have important things to contribute that might assist Christopher Nicholas—the ICRC's project lead for *The Right Choice*—to attain the goals he sets for the project. According to him, while being a "short and dramatic experience," *The Right Choice* should still remain "compelling and realistic" so that "people who aren't familiar with urban conflict to get a sense of what it looks and feels like."¹³ The information about their reactions should help the ICRC generate "empathy" and understand how "VR can be deployed to influence behaviour." On these accounts, IR scholars engaging with *The Right Choice* might have something substantive to contribute. Working closely *with* the making of this specific VR experience, throughout the process of installing, operating, and connecting it to different contexts. Because they are not communication professionals and because they inhabit the contradictory position of problem solvers and critics, researchers could work with the project to redefine it from within *as it evolves* rather than simply suggesting redefinitions from without.

A couple of counterfactual speculations of what we have in mind. IR scholars might be able to sensitize *The Right Choice* to the fraught politics of race and gender, which are acute when technologies are deployed for humanitarian purposes. *The Right Choice* is set in Syria. It shows Syrian urban warfare. It strives to render the atmosphere and context by featuring houses, people, views, and sounds from that context (as illustrated in [Figure 2](#)). The ambition is to create an understanding of the difficult choices involved or, more strongly, of a situation where there are no good choices, as the director puts it. As such, the film breaks with a lecturing genre that provides ready-made answers about the right and wrong of international humanitarian law and uses film or VR to communicate them more effectively, something characteristic of training videos such as "the Conduct of Hostilities."¹⁴ Against this, *The Right Choice* works with atmospheres and affects to shape behavior. By bringing out the contradictions and ambivalences of any "choice," it underscores the import of preventing the situation from arising in the first place rather than legislating about it once it is there. *The Right Choice* is shown in exhibitions and in museums. It is aimed both at those involved in urban warfare and a broad public. Instrumentally, its aim is to work "as an excellent fundraising mechanism; a way to elicit an emotional response from the public and create more loyal donors."¹⁵

¹²See <https://www.facebook.com/Stokedfilms/>.

¹³See <https://www.icrc.org/en/document/war-front-door-virtual-reality-challenge-inside-urban-conflict>.

¹⁴<https://www.icrc.org/en/document/law-armed-conflict-essentials> and for *The Conduct of Hostilities*, see <https://youtu.be/am7DHQOs9HE>.

¹⁵<https://blogs.icrc.org/inspired/wp-content/uploads/sites/107/2019/10/Extended-Reality-Report-BRIEF.pdf>



Figure 2. *The Right Choice*.

Still from trailer available at <https://www.youtube.com/watch?v=aFFM9jzY08>.

But does it work? Is there not a risk that it simply reproduces the main dilemma of humanitarian communication (Chouliaraki and Vestergaard 2021)? Namely, that representing “distant suffering” in this way risks creating “compassion fatigue”—with racial and gendered overtones—that cuts the affective connections that the communication aims at establishing.

Involving IR scholars in the operating of the VR installation, and in working *with* the connections it (fails to) make, might be a way of negotiating this dilemma. A first thing such involvement might do is to moderate measures of what can be expected from VR experiences and so a more general revisiting of the expectations vested within them. Indeed, solid evidence that VR generates either empathy or translates into behavioral change is limited (Murphy 2022; Sora-Domenjó 2022). It may thus be important to moderate the claim that *The Right Choice* would be “uniquely capable of evoking empathy, emotion, care, and imagination.”¹⁶ Instead, to contextualize the project and put its ambitions in perspective, working with IR scholars who do research pertinent for what can be achieved with *The Right Choice*, for instance, by researching military training practices, including through games and simulation as well as the implications of the military-industrial-media-entertainment nexus of which they are part (Der Derian 2009). More constructively, involving IR scholars might also be helpful in improving the effects that VR technologies have. Involving what is known about emotions, atmospheres and affects, subjectification processes, armed groups, organizations, states, international institutions, and beyond in armed urban conflicts can both play into the experience and the way it is assessed. Working *with* the ICRC and the process surrounding *The Right Choice*, they might help them more effectively address the “unthought” drivers of violent practices and the atmospheres that further them. Fusing this knowledge into the making of humanitarian technologies might therefore have

the potential to reformat the problem VR seeks to address in a manner more prone to reach its intended goals. It would take on that task less through the narrative and storytelling affordances of VR and more through “behavioral intervention,” linking back-up again to the work of the ICRC’s Center for Operational Research. It would therefore be more likely to establish affective connections and so achieve the aims set out for the VR experience *The Right Choice*.

Repairing, Reformatting, and Reimagining

Technologies are never finished. Nor is knowledge. They evolve and so require forms of maintenance, repair, and re-purposing. This fact is one additional reason that IR’s current focus on material-technological things as pre-baked objects ripe for critique and deconstruction is misleading and counterproductive for the discipline. By the time such a critique has been made, the technology in question is no longer that which has been critiqued. But even more disconcertingly and humbling for IR scholars, even if their knowledge was integrated into the conceptualization of a technology and the process of installing, operating, and connecting, the limits of that knowledge would be visible. It would reveal how impossible it is to foresee and chart the complex shifting lines connecting technologies, contexts, and processes. Engaging in a third core process—repairing, reformatting, and reimagining—would therefore matter not only for any particular technology under discussion but also for expanding scholarly knowledge. The possibility of reworking and reimagining the connections, to engage in “counterfactual future thinking” (Arican 2023), may indeed be core for staying with projects of material-technological making and the trouble created as they unfold.

Consider the ICRC’s *RedSafe*. *RedSafe* is conceived to allow for a variety of services (Figure 3). It comprises, for example, the “Information as AID” function that “provides crucial, trusted, and vetted information useful to somebody forced to leave their home or their country, such as where to find

¹⁶<https://blogs.icrc.org/inspired/wp-content/uploads/sites/107/2019/10/Article-Review-VR-and-Behavior-Change.pdf>

The new version of **RedSafe** delivers the following services:

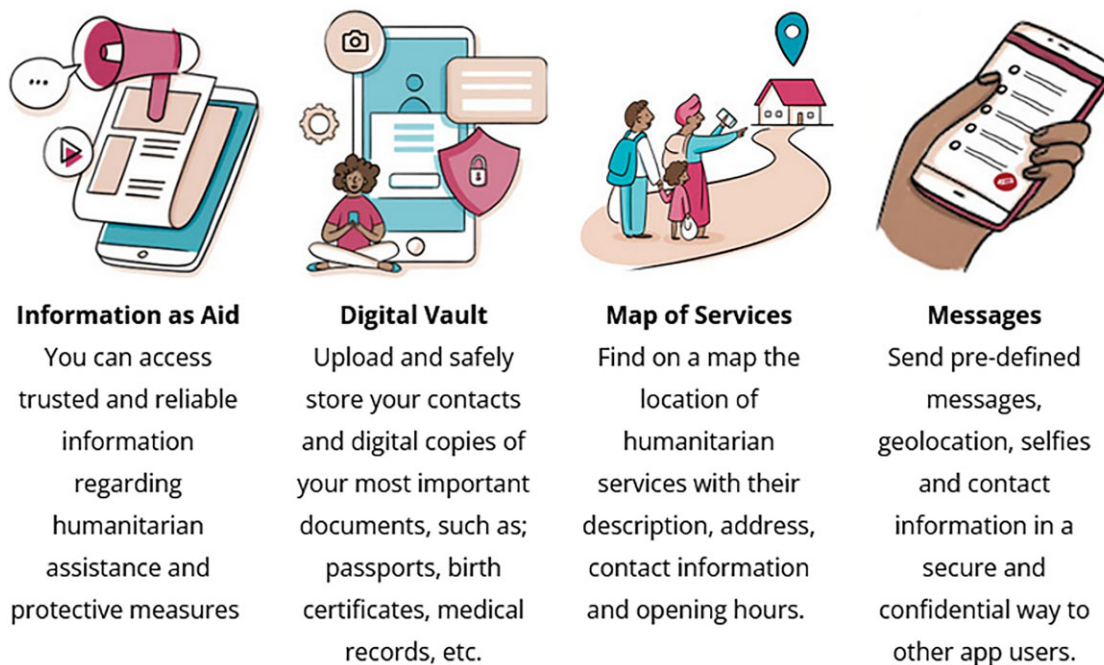


Figure 3. *Red Safe* presenting the app/opening possibilities available at <https://www.icrc.org/en/redsafe>.

shelter, food, healthcare, legal aid, assistance, or protection, and which organizations work for migrants and refugees in a particular country.”¹⁷ It also comprises a “Digital Vault” function that “allows people to upload and safely store digital copies of their essential documents, such as passports, birth certificates, or identity cards, in a cloud-type service with the data encrypted and held by the ICRC in Switzerland, where third parties cannot access it.”¹⁸ The platform’s website presents its core functions with an explanation that retakes the iconography of lists. One of these lists—that under “digital vaults”—concludes with an *et cetera* (see [Figure 3](#)). Lists also dominate pictographically through the images used on the website, where they take the form of lines that we are left to imagine the content of. This intimates the openness of lists that suggest infinite possibilities of changing, modifying, adding, and exceeding without adhering to pre-established rationalities and logics as [Umberto Eco \(2009\)](#) insists when explaining why he chose the list as the focus of his work commissioned by Le Louvre. The politics of lists is one of potential ([Leander 2016a](#)). This is also true for the *Red Safe*. “If it’s not good enough, nobody will adopt it” explains Romain Bircher, Leader of the Digital Platform Challenge Team. More than this, the functions of the platform are themselves under construction. Beyond Information as Aid and the Digital Vault, new micro-services will be plugged into the platform “as needs are identified in the field and solutions are built at headquarters.”¹⁹ The potentiality in this case is explicitly unlimited. Speaking about the

Red Safe, Balthasar Staehelin, Director of Digital Transformation and Data at the ICRC underlines that:

The platform could do anything, sky’s the limit!²⁰

How might IR scholars contribute to this prospect of limitless making? How might they draw on their ambivalent and contradictory position to give it form and shape? To help harness this faith in the “simple and manifest good” of applied science without losing a critical perspective ([Snow 2012](#), 99)? To redirect it toward a different set of political futures? To reach an answer, let us turn to the notion of repair in more detail. Against the kind of “static repairs” (e.g., of potential data leakages in *RedSafe*) that are commonly applied to digital technologies across their lifespan, and which IR might also usefully contribute to, as we saw above vis-à-vis the contextual deployment of *Trace the Face*, or processual work with *The Right Choice*, IR has the potential to also stimulate different kinds of “dynamic repair” within these processes. A dynamic repair “will change the object’s current form or function once it is reassembled” ([Sennett 2008](#), 200). Simply put, such “repairs” can change the very function of objects and so their socio-political consequences. Dynamic repairs emerge not because of a specific problem X or Y but because certain technologies are intrinsically suited to being adapted to novel “needs” as they emerge, as the ICRC’s logic for the *Red Safe* platform suggests. For [Sennett \(2008, 210\)](#), this is thus closely connected to the “reformatting” of a previously established tool or problem: “reformatting is no more and no less than the willingness to see if a tool or practice can be changed in use.” This is—then—the material-technological version of the process of discursive “problematization” valued so highly within social sciences like IR ([Lury 2020](#); [Stengers 2021](#)).

¹⁷See <https://blogs.icrc.org/inspired/2022/01/11/inside-redsafe-the-icrc-new-digital-humanitarian-platform/>.

¹⁸See <https://blogs.icrc.org/inspired/2022/01/11/inside-redsafe-the-icrc-new-digital-humanitarian-platform/>.

¹⁹See <https://blogs.icrc.org/inspired/2022/01/11/inside-redsafe-the-icrc-new-digital-humanitarian-platform/>.

²⁰See <https://blogs.icrc.org/inspired/2022/01/11/inside-redsafe-the-icrc-new-digital-humanitarian-platform/>.

Sennett insists that these forms of dynamic repair or reformatting require the use of “multipurpose tools” that allow “us to explore... the act of making a repair” more deeply and effectively than so-called “fixed” tools that simply restore a status quo ante. Importantly, his reference to “tools” here is slightly misleading in that dynamic tools more closely resemble domains of specialized knowledge that can be applied to a problem. For example, two dynamic multi-purpose tools are digital technologies themselves and social scientific knowledge itself. In each case, their base affordances can be applied to—in theory—an infinite (“*the platform could do anything*”) number of problems. Especially importantly, however, is that dynamic reformattings of problems tend to occur when novel “adjacencies” are developed between “two [or more] unlike domains” (Sennett 2008, 210). This may generate intuitive leaps “into the unknown” that fundamentally surprise our expectation of what is possible (Sennett 2008, 208). For example, “to invent the mobile telephone, it was necessary for researchers to shove close together two quite different technologies, those of the radio and the telephone, then to think about what they might, but didn’t yet, share” (Sennett 2008, 211). From apparent difference came novelty. This logic—common in management and organization studies to describe innovation—can also be applied to the value of introducing IR researchers into material-technological making. How might fusing IR into material-technological making hold the potential to “change” an object’s “current form or function?”

This question is impossible to answer, even counterfactually, until the process begins in earnest. But, to return to our discussion of the ICRC’s *Centre for Operational Research*, it is important to stress that involving scholars in turbulent chains of collaborative making could never be a one-way process. It would also reformat researchers’ understanding of this problem. By engaging at a practical level with material-technological projects, and committing to their goals, scholars would become more responsive to alternative (and humbler) modes of engaging in world politics. Indeed, they would become sensitive to what Sennett (2008, 212) terms the “gravity” of making dynamic repairs. This refers to the fact that while the reformatting of a problem space requires the putting-into-adjacency of distant fields of knowledge, the “intuitive leaps” this produces do not—in and of themselves—generate change. As Sennett (2008, 212) writes:

The recognition that an intuitive leap cannot defy gravity matters... largely because it corrects a frequently held fantasy about technology transfer. This is that importing a procedure will clarify a murky problem.

This remark refers to a fantasy within imaginaries about technological design itself: The idea that a *sui generis* discovery can intrinsically transform and solve a problem. Sennett stresses that this is rarely the perspective of those involved in making technological objects themselves, as they must grapple with the “gravity” forces intrinsic to the “generative currents” of materiality. Even where a leap of discovery has been made, much more work remains to be done. For IR, engaging in such a process might be illuminating. As we saw earlier, while adept in criticizing the material-technological, the alternatives offered by the literature are often vague in their focus on the “transformation of society as a whole.” Being confronted with the gravity forces of the material technological *in action* might thus not only adjust the field’s understanding of the task of making such objects, but also its own—frequently utopian yet ungrounded—socio-political

dreams. The path from the purity of theoretical abstractions to the dirty processes of material-technological making passes through the painful realization that our knowledge and conceptual universe have limits for every possible application.

In sum, once IR is imagined to be embedded in the full chain of material-technological making, it is possible to conceive of situations in which scholars collaboratively co-create technology concepts that could not be imagined in their absence. Getting there would demand the paradigm shift that collaboration can open up. By engaging with practitioners, engineers, graphic designers, etc. IR might ask new critical yet pragmatic questions: What kind of critical technology might change problem, X, Y, or Z? What would such a technology look like? What technical features would it require? How would those interact affectively, corporeally, and organizationally with humans, institutions, and other material things? What might its aesthetic form take? Questions like these could be part of the day-to-day tasks of IR. To close with Sennett, while making is certainly thinking, it is also thinking *differently*. But to think differently, we first have to be there, in the room, where all this occurs.

Responsibility, Curiosity, and Collaboration

In his discussion of the value of thinking-through-making, Sennett (2008, 200) writes that there are “two sorts of emotional responses” that we can make to “an object that does not work” and that guide what we must thus do next:

We can want simply to relieve its frustration and will employ fit-for-purpose tools to do so. Or we can tolerate the frustration because we are now also curious; the possibility of making a dynamic repair will stimulate, and the multipurpose tool will serve as curiosity’s instrument.

Much of our argument above advocates for cultivating the second kind of emotional response. As a discipline, IR should resist the urge to engage in the “fit-for-purpose” tool of intellectual critique, positing most commonly a withdrawal from the material-technological to “relieve its frustration.” Instead, we have advocated for a radical shift toward a collaborationist ethos in which scholars are injected into the *full process* of material-technological making. Doing so requires a difficult process of “tolerating the frustration” inherent to collaboration. Collaborative endeavors generate frictions and core vulnerabilities. They demand compromise (from all sides) to be successful, especially as assumptions and priorities inevitably clash, and scarce resources need to be distributed. In this, a more “modest” and “playful” ethos is central (Haraway 1997, 2010). We must be simultaneously modest about the limits of social scientific knowledge, as well as in our engagement with the material-technological. This is not a call for hubristic techno-solutionism but, on the contrary, that we playfully engage with the possibilities it may open up and insist on “staying with the trouble” and frustration of our material-technological world (Haraway 2016).

Our suggestions for how to involve IR in material-technological making differ substantially from those it currently deploys. We do not emphasize conventional publishing strategies, advocacy work, or advisory roles. Nor do we focus on expanding the reach of scholarly knowledge through podcasts, literature, theater, films, art, etc. Nonetheless, all this will remain important. We have little doubt that theoretical academic knowledge is of the essence, not least as the foundation for academics engaging

in material-technological making. What we are asking for is thus not an end to theoretical or academic pursuits. Instead, we are advocating for a shift in its relation to making and for working transvocationally. It is not a matter of “advising” the ICRC about the contextual factors that influence the operation of *Trace the Face*. Rather, it is a matter of conceptualizing and piloting technologies that reflect them. It is not about pointing to the fraught, naively conceived, and potentially counterproductive processes associated with *The Right Choice*. Rather, it is about co-creating a different experience closer to the ICRC’s intentions. It is not about opposing all that is missing and incomplete with the *Red Safe*. Rather, it is about working with the potential openness of material-technological making. As such, we are advocating for something: the presence of IR *within* and *across* the process of conceptualizing material-technological making, for IR’s direct implication in its turbulent collaborative dynamics. We do so because we think it matters both for the development of tailored and precise solutions to emergent dilemmas and for the redefinition of what dilemmas need to be addressed. What knowledge exactly IR can apply to assist in processes of material-technological making and—equally importantly—*how* that knowledge is integrated into material-technological making are questions that can only be answered in relation to concrete processes and taking into account the fundamentally two-way connection between material-technical making and knowing in IR.

Most importantly, we believe that IR has a fundamental ethico-political “response-ability” to engage in material-technological making. Haraway (2016, 104) argues that while it is unjustifiable to demand responses from those who do not have the ability to provide them, it is equally unjustifiable for those who have the ability to respond not to do so. They “should be tasked with letting their imagination be forced to articulate, feel, be open and receptive” to the ethical issues arising in and through their activities (Greenhough and Roe 2010, 44). Such a notion of response-ability brings out two connected ethical implications. One is that IR researchers cannot confine themselves to an advisory role vis-à-vis material-technological making, demanding applied scientists and practitioners listen to them. Such projects rarely succeed. And why should they? They demand applied scientists become social scientists in their practices, reading habits, and outlook on the world. If we cannot become applied scientists, then why would “they” be able to become social scientists? More fundamentally, if researchers have the ability to work with them and they wish us to do so, what justifies self-exclusion and a reluctance to acknowledge our response-ability? This question is particularly pressing if we ponder the possibility that the critiques that academics identify post-hoc vis-à-vis the material-technological might not have been necessary in the first place if it engaged in the first place.

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