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Symposium on the State of the Field

Book Reviews

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This issue of *Genocide Studies and Prevention continues* a conversation that began in 2013 with the publication of 8.3, *Humanitarian Technologies and Genocide Prevention*. The current issue, titled *Information and Communications Technologies in Mass Atrocities Research and Response*, is guest edited by Colette Mazzucelli and Anna Visvizi. In their introductory state of the field article, they focus on the enduring ethical questions that surround information communications technologies for mass atrocity research and response. The articles in this issue contribute to the study and practice of mobile technology to document forensic evidence of sexual violence, the use of satellite and mobile phones, DNA technology and field dynamics in conflict related mass fatalities, human rights media, and a theory of harm for information communication technologies.

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Querying the Ethics of Data Collection as a Community of Research and Practice: The Movement Toward the "Liberalism of Fear" to Protect the Vulnerable

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Introduction

The literature that references the role of Information and Communications Technologies (ICTs) in mass atrocities research and response is growing, as indicated by a previous Special Issue of *Genocide Studies and Prevention*.[1] Other publications, in which ICTs feature prominently, influence the development of debates and engagement in human rights, humanitarian assistance, and human security. Increasingly, however, along with the burgeoning interest in ICTs and their promise in these fields, questions are being asked, and concerns expressed, as to fundamental problems of various kinds. The most pressing of these considerations speak to accountability, the ethics of use in local areas, and the impact on the vulnerable populations that ICTs promise to serve. These concerns are ever present as subjects of public debate during the writing of articles in the Special Issue. This is why dialogue connecting research and practice is necessary to identify ways to address these challenges at both the conceptual and political levels. The perspectives of researchers and the experience of practitioners must come together to bring the discussion forward.

In response to this plea, a community of experts remains in dialogue after initial meetings to define the contents of the Special Issue. The responsibility of this community is to grapple with specific issues that define the state of the field in data collection, including prominent uses of satellite imagery analysis, forensic investigation techniques, and mobile telephony applications, to document human rights abuses in remote areas, as evidenced in the work of Amnesty International and Physicians for Human Rights. Ethical considerations orient these discussions. The dilemma of how to use technology effectively, while not harming the vulnerable, constitutes one of the most salient issues. Can technology, a two-edged sword in its applications, promote the objective of never again in mass atrocities response? This Introduction highlights the ways in which this question and others identified lead to reflections concerning an emerging pedagogy of mass atrocities research and response. In the learning and teaching this pedagogy inspires, it may be possible to nurture a movement that is transformative, rather than incremental, in its challenge to the status quo characterized by what Raymond and Sandvik cite as "technological utopianism."[2]

The necessity to increase the interactions among researchers and practitioners led the contributors to this Special Issue to meet first at the United States Holocaust Memorial Museum (USHMM) on November 7, 2015 followed by a subsequent gathering at NYU DC on June 11, 2016. The immediate goal was to raise questions that challenge the uses of ICTs in the collection and analysis of data from the field in highly sensitive areas where mass atrocities are likely or have already transpired.

Five objectives focused the discussions in these meetings: (1) an awareness of the audiences the Special Issue aims to serve; (2) a consideration of the state of the literature to convey the breadth of what has already been investigated; (3) a curiosity to convey the ways in which evidence collection crosscuts with the latest applications of technologies; (4) a necessity to explore the tensions between the Western bias in the uses of technologies and the need to anchor the localization outreach; and, most fundamentally, (5) the largely missing aspect in the conversation, which is an impetus to

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[1] Yasemin Irvin-Erickson and Douglas Irvin-Erickson, eds., *Genocide Studies and Prevention: An International Journal 8, no. 3 (2013), Special Issue: Humanitarian Technologies and Genocide Prevention*.

[2] See Nathaniel Raymond and Kristin Bergtora Sandvik, "Beyond the Protective Effect: Towards a Theory of Harm for Information Communication Technologies in Mass Atrocity Response," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017), 9-24.

pedagogy. This last objective speaks to a primary concern of the contributors: to explain the state of the field and to indicate for the future generations of students the likely direction of evidence collection to document mass atrocities.[3]

There is a basic question the articles prompt readers to ask, which is essential to address in the literature: "If area experts and international researchers are only collecting data and no subsequent action is taken on the basis of the evidence discovered, is justice being served in the field of mass atrocities or genocide studies?[4] In order to respond, the contributors highlight tensions between the Western bias, which Raymond and Sandvik analyze, namely, that of "ICTs having an inherently "ambient protective effect" (APE) - i.e. casually transforming the threat matrix of a particular atrocity producing environment in a way that improves the human security status of targeted populations,"[5]and the genuine harm that can be inflicted on already vulnerable populations as a result of technological interventions in remote and fragile locales.

In this context, researchers and practitioners alike must always return to the impact of their engagement with technologies in the local area, which has a robust specificity in each case mentioned by the authors – Democratic Republic of Congo, Guatemala, Bosnia, Libya, North Korea, Syria, and Nigeria. This emphasis is in line with the area studies literature that rejects "the disappearing local" in the twenty-first century globalization context.[6]

Localization outreach is a theme that figures prominently in the Special Issue led by the Raymond and Sandvik survey of the literature and a sequence of articles that includes the ground-breaking MediCapt case discussed in the review essay by Naimer, Brown, and Mishori; and the insightful study by Koettl, which is situated between the juxtaposing analyses of Schmitt and Mazoori, on the one hand, and Aronson, on the other. These articles speak in different ways to the idea expressed by Eleanor Roosevelt in the opening quote cited in *The Signal Code*:[7]

> Where, after all, do universal human rights begin? In small places, close to home - so close and so small that they cannot be seen on any maps of the world. Such are the places where every man, woman, and child seeks equal justice, equal opportunity, equal dignity without discrimination. Unless these rights have meaning there, they have little meaning anywhere. Without concerted citizen action to uphold them close to home, we shall look in vain for progress in the larger world.[8]

The preceding quote, attributed to a champion of human rights described as "First Lady of the World" in her quest to give voice to the powerless, guides the contributors in three ways to define the content of their articles – (1) to revolutionize, (2) to professionalize, and (3) to disrupt the field of data collection through the careful delineation of the manner in which an emerging community of research and practice works to intervene or not intervene with technologies at different stages of mass atrocities. In this quest, the audience to which the Special Issue speaks is an interdisciplinary one, cutting across academic disciplines and non-governmental organization (NGO) activism, which can grasp the inherent dangers of a "technology optimism," as identified by Raymond and Sandvik, that "impacts the distribution of resources, field practices and the rules and norms that regulate the use of these interventions."[9]

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[3] Colette Mazzucelli appreciates discussing these objectives with Ziad Al Achkar with particular reference to an exchange of views including Brynnan Parish during the meeting of contributors at NYU DC on June 11, 2016.

[4] Joyce Apsel and Ernesto Verdeja, eds., *Genocide Matters* (London and New York: Routledge, 2013); David A. Hamburg, *Preventing Genocide* (Boulder and London: Paradigm Publishers, 2010); Clea Koff, *The Bone Woman* (New York: Random House Trade Paperbacks, 2005).

[5] Raymond and Sandvik, *Beyond the Protective Effect*, 9-24

[6] Ali Mirsepassi, Amrita Basu, and Frederick Weaver, eds., *Localizing Knowledge in a Globalizing World* (New York: Syracuse University Press, 2003).

[7] Faine Greenwood, Caitlin Howarth, Danielle Escudero Poole, Nathaniel Raymond, and Daniel Scarnecchia, *The Signal Code* (Cambridge, MA: Harvard Humanitarian Initiative, 2017).

[8] Eleanor Roosevelt, speech to the United Nations Commission on Human Rights, United Nations, New York, March 27, 1958.

[9] Raymond and Sandvik, *Beyond the Protective Effect*, 9-24.

Implicit in these different articles is the understanding that the use of ICTs influences power relations. A classical view of international affairs underlines what Hoffmann terms "dissensus,"[10] in other words, "the absence or paucity of common values, substantive or procedural" which liberals aim to interject to limit unrestrained abuses of the weak by the agents of coercive states, particularly the "military, paramilitary, and police agents."[11] The omnipresent "theory of change," critiqued by Raymond and Sandvik insofar that "ICTs can serve as a platform on which hegemony can be promoted… shifting the balance towards powerful institutions if the latter are able strategically to use ICTs as legitimating tools,"[12] focuses attention squarely on the fact that, in the liberal tradition, "the individual, …the potential victim of cruelty, is to be protected against the incursions of public oppression."[13]

Naimer, Brown, and Mishori weigh the obstacles and opportunities Physicians for Human Rights professionals encounter in the deployment of MediCapt, "a mobile phone app meant to assist health professionals conducting medical exams in sexual violence cases,"[14] during an initial rollout phase in the Democratic Republic of Congo (DRC). In thinking about the ways to revolutionize, professionalize, and disrupt the field of data collection, this study is a seminal one in terms of the questions the MediCapt pilot launch engenders. In the epistemic community of research and practice that is emerging around the elaboration of *The Signal Code*, with a view to the "right to protection," the "right to data privacy and security," and the "right to data agency,"[15] the analysis and assessment of MediCapt can heighten public awareness of the necessity "to lay out a theory of harm."[16] Raymond and Sandvik are cognizant of the "potentially transformative" impact in deploying MediCapt to "help hold perpetrators of human rights violations accountable for their crimes" starting in eastern Congo.[17] The scope of the problem Raymond and Sandvik identify explains the urgency of their task, which is to elucidate "ICT as a site of ethical precariousness and as capable of causing actual harm to the response, to responders, and most importantly, to civilians who are the targets of mass atrocities."[18]

A theory of harm urges an emerging community of research and practice initially to acknowledge "the liberalism of fear" that Shklar defined as "a shifting line, but not an erasable one," along which "The limits of coercion begin, though they do not end, with a prohibition upon invading the private realm…,"[19] which, in turn, upholds the golden rule: do no harm. Koettl underscores the perpetrators' expectation of impunity, which reinforces the belief that "their crimes will go unnoticed or can be easily dismissed or minimized in an environment of high information uncertainty."[20] The likelihood of impunity demands that the costs for the perpetrator be raised as the opportunity to exploit the vulnerable is lessened. The demand, in turn, heightens the need, without shifting the line too far "in response to the technological and military character of governments and the productive relationships that prevail,"[21] to address what Koettl identifies as the "lemon problem," namely, "the risk of using *misinformation* that can discredit an entire research project, …exacerbated…where… [its] spread is made easier by digital social media networks." [bold and italics added by the authors]

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[10] Stanley Hoffmann, *Janus and Minerva Essays in the Theory and Practice of International Politics* (Boulder and London: Westview Press, 1987).

[11] Shklar, *The Liberalism of Fear*, 29.

[12] Raymond and Sandvik, *Beyond the Protective Effect*, 9-24.

[13] Shklar, *The Liberalism of Fear*, 23.

[14] See Karen Naimer, Widney Brown and Ranit Mishori, "*MediCapt* in the Democratic Republic of the Congo: The Design, Development, and Deployment of Mobile Technology to Document Forensic Evidence of Sexual Violence," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017), 25-35.

[15] *The Signal Code,* https://signalcode.org/.

[16] Raymond and Sandvik, *Beyond the Protective Effect*, 9-24.

[17] Naimer et al, *MediCapt in the Democratic Republic of the Congo*, 25-35.

[18] Raymond and Sandvik, *Beyond the Protective Effect*, 9-24.

[19] Shklar, *The Liberalism of Fear*, 24.

[20] See Christoph Koettl, "Sensors Everywhere: Using Satellites and Mobile Phones to Reduce Information Uncertainty in Human Rights Crisis Research," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017), 36-54.

[21] Shklar, *The Liberalism of Fear*, 24.

For this reason, the Naimer, Brown, and Mishori analysis illustrates the MediCapt design, which addresses the lemon problem by combining "a custom-designed medical intake form for forensic documentation with secure mobile camera functionality for forensic photography."[22] It is important to recognize that MediCapt, as Koettl explains, has "the potential to be impactful on specific issues and when working with dedicated networks."[23] In this context, MediCapt "helps to standardize and preserve critical forensic evidence of sexual violence."[24] The care with which the design of MediCapt evolves is a testimony to the extent to which clinical end-users are involved as well as the respect for local cultural norms in the co-design process, which is more important than the technological complications that ensued or the lack of material supplies (ink or copiers) that resulted when a specific printing feature was selected. Of particular relevance is the slow nature of these developments, particularly the years of study required "to determine the full impact of MediCapt on medical, legal, and human rights outcomes."[25]

The MediCapt study illustrates the challenges involved to develop an app that can be transformative over time. Only a longer term assessment can reveal the extent to which survivors of sexual violence and other human rights violations can hold perpetrators accountable. If transformative means "finding a way between the insufficient and the impossible,"[26] it is necessary to question if, as Koettl argues, MediCapt is "less likely to be adapted by large numbers of people or utilized by bystanders?"[27] Is this the fate of documentation apps that capture relevant metadata and chain of custody records, which, as Schmitt and Mazoori argue, is essential if the vulnerable in local areas are to appeal through court systems in their own communities equipped with compelling as well as comprehensive forensic evidence to support their allegations?[28]

The contributors to the Special Issue speak to a number of concerns around the applications of technologies increasingly used in human rights initiatives "to collect, analyze, and preserve evidence that could be admissible in court"[29] with the full awareness of the risks associated with their use, particularly for vulnerable populations, as well as the need for those engaged in human rights work to identify best practices to address these risks together with colleagues in the technology community.

Although, as Naimer, Brown, and Mishori explain, "MediCapt meets best practices for chain-of-custody considerations in evidence collection,"[30] the app's further development raises a host of concerns, particularly the "very real risk that hackers may seek weaknesses in the architecture of the app," which, in turn, requires constant focus on "safeguarding the security of the app itself." The risks to the user and to the many others involved in nothing less than a transformative approach to evidence collection requires a transparent dialogue around what constitutes a fair warning to potential users.

The articles in the Special Issue reference one another in considerations of 1) the mandate to deploy technology in any particular area as well as 2) the impact of the deployments over time. In this respect, Koettl's analysis situates itself between that of Aronson, on the one hand, and Schmitt and Mazoori, on the other. Koettl's discussion assesses the impact of satellite imagery and mobile phone technology as potential game changers to address the lack of information available to human rights activists documenting abuses in remote areas such as North Korea. Aronson speaks to the preservation of video materials, which may be curated as human rights public educational resources in a museum or university setting. Schmitt and Mazoori are squarely focused instead on the ways in which the collection of DNA samples may become legal evidence to be adjudicated,

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[22] Naimer et al, *MediCapt in the Democratic Republic of the Congo*, 25-35.

[23] Koettl, *Sensors Everywhere*, 36-54.

[24] Naimer et al, *MediCapt in the Democratic Republic of the Congo*, 25-35.

[25] Ibid.

[26] Hoffmann, *Janus and Minerva*, 410.

[27] Koettl, *Sensors Everywhere*, 36-54.

[28] See Stefan Schmitt and Dallas Mazoori, "Jurisdiction, Privacy and Ownership: DNA Technology and Field Dynamics in Conflict Related Mass Fatalities," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017), 55-81.

[29] Naimer et al, *MediCapt in the Democratic Republic of the Congo*, 25-35.

[30] Ibid.

as a matter of necessity in each specific case, by the State, which is, in their view, "integral to a legitimate human identification process." As they explain: "Attempting to minimize initial delays in human identifications at the expense of building local knowledge, skills and necessary legal frameworks risks undermining the legitimacy of the human identification effort." Their argument prompts further considerations of capacity. At one end of the spectrum, there is Palantir and what Morozov terms "solutionism" or the implicit belief that technology is able to solve humanity's problems.[31] At the other, there is the full development of local capacity such as iHub in Kenya, iLab in Liberia or the Guatemalan Forensic Anthropology Foundation (FAFG).[32] The articles in the Special Issue make the case for developing capacity appropriate to a particular context, as Naimer, Brown, and Mishori make clear in the MediCapt study with reference to the Democratic Republic of the Congo.

The authors' collective dedication to pedagogy[33] lends a singular importance to the questions their articles raise around data collection. There is a corresponding responsibility to consider the core tension that exists in the analysis of what Aronson explains is the "duty to preserve"[34] and its specific implications for the "right to agency"[35] defined in *The Signal Code*. The relevant questions in the analysis by Aronson include "whose needs are being met by the preservation of human-rights-related video and who ought to control the storage and use of this content?"[36] The commitment to preserve evidence of violations for justice and accountability, nationally and internationally, is voiced by the international human rights community. A view that speaks more to the right to agency upholds the "ethical duty to protect individuals and respect their wishes even when higher-level justice and accountability efforts may suffer."[37] This view is often articulated by those closer to the actual production of evidence. The different understandings expressed by human rights practitioners as to which view should be prioritized raise further questions for present and future generations to ponder.

These questions, leading to a focus as well in the classroom on matters of consent, security, privacy, and ethics, bring to mind the ways voices may speak "to restrain…abusers of power" with a belief that "Liberalism must restrict itself," as Shklar writes, "to lift the burden of fear … from the shoulders of adult women and men."[38] The ownership of information, of the evidence, that is collected is paramount in so far as the scope of some technology goes "far beyond personal information or evidence from a person's body or memory."[39] The "privatization of evidence collection, with attendant threats to chain of custody as well as accusations of bias," may result if these issues are not clarified.[40] In light of these concerns, the genesis of a movement toward the liberalism of fear to protect the vulnerable is more likely to be anchored by the rights articulated in *The Signal Code* for a community of research and practice than principles debated in the chambers of the United Nations like Responsibility to Protect.

The queries that challenge, the questions that inform, such a movement are born of learning in a classroom animated by the breadth of the imagination rather than the borders of a building. This may be perceived as the learning at the core of an "emancipatory education"[41] for the generations

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[31] Ian Tucker, "Evgeny Morozov: 'We are abandoning all the checks and balances'," *The Guardian*, March 9, 2013, accessed March 22, 2017, https://www.theguardian.com/technology/2013/mar/09/evgeny-morozov-technology-solutionism-interview.

[32] Colette Mazzucelli and Dylan P. Heyden, "Unearthing Truth: Forensic Anthropology, Translocal Memory, and 'Provention' in Guatemala," *Politics and Governance* 3, no. 3 (2015), 44-45.

[33] Colette Mazzucelli, "Humanitarian Technologies and Genocide Prevention: A Critical Inquiry," *Genocide Studies and Prevention: An International Journal* 8, no. 3 (2014), 89-94.

[34] See Jay Aronson, "Preserving Human Rights Media," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017), 82-99.

[35] *The Signal Code*, https://signalcode.org/.

[36] Aronson, *Preserving Human Rights*, 82-99.

[37] Ibid.

[38] Shklar, *The Liberalism of Fear*, 31.

[39] Naimer et al, *MediCapt in the Democratic Republic of the Congo*, 25-35.

[40] Ibid.

[41] Maxine Greene, *Landscapes of Learning* (New York: Teachers College Press, 1978).

to come: those students born as digital natives for whom the applications of such technology are a matter of habit rather than deliberation. The social foundation of a movement toward the liberalism of fear is not only a matter of the content taught. The necessity to problematize ways of teaching is at the center of the endeavor, which Greene identifies:

> The teaching problem seems to me to be threefold. It involves equipping young people with the ability to identify alternatives, and to see possibilities in the situations they confront. It involves the teaching of…possible perspectives by means of which those situations can be assessed and appraised…norms that must be appropriated by persons desiring to join particular human communities. It also involves enabling students to make decisions…to reflect, to articulate, and to take decisive actions in good faith. Fundamental to the whole process may be the building up of a sense of moral directedness… an awareness, and a sense of possibility are required, along with the sense of autonomy and agency, of being present to the self. There must be attentiveness to others and to the circumstances of everyday life. There must be efforts made to discover ways of living together justly and pursuing common ends. As wide-awake teachers work…eliciting moral judgements, they must orient themselves to the concrete, the relevant, and the questionable. They must commit themselves to each person's potentiality for overcoming helplessness and submergence, for looking through his or her own eyes at the shared reality…this can only be done if teachers can identify themselves as moral beings, concerned with defining their own life purposes in a way that arouses others to do the same….the young are most likely to be stirred to learn when they are challenged by teachers who themselves are learning, who are breaking with what they have too easily taken for granted, who are creating their own moral lives.[42]

The aim in the Special Issue, to revolutionize, professionalize, and disrupt the field of data collection, emphasizes localization rather than prevention. As articulated in *The Signal Code*, the need to elaborate "a human rights approach to information during crisis"[43] asks an emerging community of research and practice to challenge an illiberal principle of exclusion, which divides humankind into peoples served by technology and those made increasingly vulnerable by its deployment around the world. In the face of the harm that inappropriate uses of technology may engender, the contributors query the ethics of data collection. In so doing, it is essential to acknowledge, as Shklar explains in refuting objections to the liberalism of fear, that "We would do far less harm if we learned to accept each other as sentient beings, whatever else we may be, and to understand that physical well-being and toleration are not simply inferior to the other aims that each one of us may choose to pursue."[44] The contributions to the Special Issue urge readers, present and future, to join the authors raising questions to inform pedagogy. These are questions anchored in field experiences, which respect the rights defined in *The Signal Code* to protect the vulnerable and to empower the local community.

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[42] Ibid., 50-51.

[43] https://signalcode.org/.

[44] Shklar, *The Liberalism of Fear*, 32.

improved the article content. Dr. Anne Marie Goetz made time to comment on the MediCapt analysis. Brynnan Parish assisted most ably taking meeting notes and editing articles. Shirley Cloyes DioGuardi shared her knowledge and time generously and graciously in numerous conversations about the content of the Special Issue. Charles Patrick Martin-Shields provided helpful insights as the Special Issue was nearing publication. The Editors look forward to cooperate with the community of research and practice to disseminate the Special Issue among members of the Global Diplomacy Lab (GDL) and Brandeis University's Summer Institute for Israel Studies (SIIS).

Bibliography

Apsel, Joyce and Ernesto Verdeja, eds. *Genocide Matters*. London and New York: Routledge, 2013.

Aronson, Jay D. "Preserving Human Rights Media." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 82-99. http://doi.org/10.5038/1911-9933.11.1.1441

Greene, Maxine. *Landscapes of Learning*. New York: Teachers College Press, 1978.

Greenwood, Faine, Caitlin Howarth, Danielle Escudero Poole, Nathaniel Raymond, and Daniel Scarnecchia. *The Signal Code.* Cambridge, MA: Harvard Humanitarian Initiative, 2017.

Hamburg, David A. *Preventing Genocide.* Boulder and London: Paradigm Publishers, 2010.

Hoffmann, Stanley. *Janus and Minerva Essays in the Theory and Practice of International Politics.* Boulder and London: Westview Press, 1987.

Irvin-Erickson, Yasemin and Douglas Irvin-Erickson, eds. *Genocide Studies and Prevention: An International Journal 8, no. 3, Special Issue: Humanitarian Technologies and Genocide Prevention*, 2013. http://doi.org/10.5038/1911-9933.8.3

Koettl, Christoph. "Sensors Everywhere: Using Satellites and Mobile Phones to Reduce Information Uncertainty in Human Rights Crisis Research." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 36-54. http://doi.org/10.5038/1911-9933.11.1.1440

Koff, Clea. *The Bone Woman*. New York: Random House Trade Paperbacks, 2005.

Mazzucelli, Colette and Anna Visvizi. "Querying the Ethics of Data Collection as a Community of Research and Practice The Movement Toward the 'Liberalism of Fear' to Protect the Vulnerable." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 2-8. http://doi.org/10.5038/1911-9933.11.1.1493

Mazzucelli, Colette and Dylan P. Heyden. "Unearthing Truth: Forensic Anthropology, Translocal Memory, and 'Provention' in Guatemala." *Politics and Governance* 3, no. 3 (2015): 42-53. https://doi.org/10.17645/pag.v3i3.451

Mazzucelli, Colette. "Humanitarian Technologies and Genocide Prevention: A Critical Inquiry." *Genocide Studies and Prevention: An International Journal* 8, no. 3 (2014): 87-99. https://doi.org/10.5038/1911-9933.8.3.8

Mirsepassi, Ali, Amrita Basu, and Frederick Weaver, eds. *Localizing Knowledge in a Globalizing World*. New York: Syracuse University Press, 2003.

Naimer, Karen, Widney Brown, and Ranit Mishori. "*MediCapt* in the Democratic Republic of the Congo: The Design, Development, and Deployment of Mobile Technology to Document Forensic Evidence of Sexual Violence." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 25-35. http://doi.org/10.5038/1911-9933.11.1.1455

Raymond, Nathaniel and Kristin Bergtora Sandvik. "Beyond the Protective Effect: Towards a Theory of Harm for Information Communication Technologies in Mass Atrocity Response." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 9-24. http://doi.org/10.5038/1911-9933.11.1.1454

Schmitt, Stefan and Dallas Mazoori. "Jurisdiction, Privacy and Ownership: DNA Technology and Field Dynamics in Conflict Related Mass Fatalities." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 55-81. http://doi.org/10.5038/1911-9933.11.1.1452

Shklar, Judith N. "The Liberalism of Fear." In *Liberalism and the Moral Life*, edited by Nancy L. Rosenblum, 21-38. Cambridge, MA: Harvard University Press, 1989. https://doi.org/10.4159/harvard.9780674864443.c2

Tucker, Ian. "Evgeny Morozov: 'We are abandoning all the checks and balances'." *The Guardian*, March 9, 2013. Accessed March 22, 2017, https://www.theguardian.com/technology/2013/mar/09/evgeny-morozov-technology-solutionism-interview.

Beyond the Protective Effect: Towards a Theory of Harm for Information Communication Technologies in Mass Atrocity Response

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Introduction

Historically, the international community's response, or lack thereof, to mass atrocities, has been shaped by the absence of timely and accurate information.[1] The past two decades have witnessed non-governmental organizations, international agencies, governments, and private sector actors designing, adopting, and employing information communication technologies (ICTs) including smartphone apps, remote sensing platforms such as satellite imagery analysis, surveillance drones and other forms of digital data collection and analytics, as standard components of sectoral and cross-sectoral responses to both the threat and alleged committal of mass atrocities in a variety of operational and geographic contexts. Throughout this period, the use of ICTs has metamorphosed from consisting of a series of prototype use cases of these tools and techniques to become a commonplace component of the human rights and humanitarian sector's response to mass atrocity and human security crisis scenarios. Accompanying this mainstreaming is a set of generalized and, to date, largely unsubstantiated claims that ICT changes the nature and effectiveness of mass atrocity response.

So far, limited conceptual scholarly attention has been given to the progress-claims made on behalf of ICT technologies and how these claims correspond to their actual impact on the broader field of mass atrocity response. This is problematic, because this form of technology optimism, or even utopianism, impacts the distribution of resources, field practices and the rules and norms that regulate the use of these interventions. In this article, we contest the theory of change presented by various actors in the mass atrocity field. According to this theory, ICTs are not only force multipliers with respect to civil society's ability to address atrocities, but the use of ICT in itself represents a form of response that enhances the protection of civilians. In doing so, we make three arguments.

First, we argue that there is no evidence of the existence of what can be referred to as a causal Protective or Preventative Effect (PPE) from the use of ICTs in mass atrocity producing environments. In our coinage, the PPE is conceptualized as the following: The use of technology in mass atrocity contexts are largely preceded by the encoding of assumptions and aspirations into ICTs having an inherently Ambient Protective Effect (APE); i.e. casually transforming the threat matrix of a particular atrocity producing environment in a way that improves the human security status of targeted populations. Second, we suggest that more attention needs to be paid to the reverse effect, namely that the collection and distribution of demographically identifiable information (DII) in disasters can instead be a causal vector for harm. Building on Raymond, we define DII as either individual and/or aggregated data points that allow inferences to be drawn that enable the classification, identification, and/or tracking of both named and/or unnamed individuals, groups of individuals, and/or multiple groups of individuals according to ethnicity, economic class, religion, gender, age, health condition, location, occupation, and/or other demographically

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defining factors.[2] We suggest that the absence of a shared theory of harm and a corresponding framework for applying it to these new and evolving ethical challenges represents a key challenge. Third, to that end, we begin to articulate the core components of such theory of harm with respect to the use of ICT in mass atrocities. In our articulation, harm can arise from a wide array of technology-based practices, interactions and policy considerations in mass atrocity response. As a first step, we need to do the work of linking *data security* (privacy and data protection) and *cybersecurity* more comprehensively to *human security*. As a second step in our attempt to articulate a theory of harm, we put forward the view that DII requires its own category and science of identifiable data specific to itself. As a third step, we propose a closer focus on preparedness: We argue that mass atrocity and human security fields more broadly are characterized by missing conversations about tradeoffs before tech deployment. As a fourth step, we point to the need for greater reflexivity: we argue that it is necessary for response actors to take the differences between the ideologies, means, methods and objectives of humanitarian service provision and human rights truth provision-oriented communities seriously, and to more consciously reflect on the significance of this difference for one's own work. The fifth element of our theory of harm relates to ourselves as mass atrocity responders, and the ethical limits to *how far* we can go to digitally protect our operations.

The article proceeds as follows. We begin by briefly describing the rise of ICT technologies in mass atrocity response. We then argue that seen through the theoretical prism of technological utopianism, the arguments made on behalf of ICT technologies go beyond the notion of ICT as a force multiplier to claim that monitoring and information gathering may itself be equated to enhanced protection of civilians.[3] Next, we offer a four-pronged critique of the ICT progress narrative. We flesh out the components of the ambient protective or preventative effect; and describe the emergence of ICT as a site of ethical precariousness and as capable of causing actual harm to the response, to responders, and most importantly, to civilians who are the targets of mass atrocities. In the final part, we begin to lay out a theory of harm that can help us understand and address this issue. We conclude by arguing that our attempt at offering a theory of harm can assist in developing a means for logging and evaluating critical incidents, including standard definitions and procedures used by funders, governments, and local communities to evaluate past projects and prevent the infliction of harm from similar, future deployments.

The Rise of ICT in Mass Atrocity Response
These mass atrocity response specific uses of ICTs can include, but are not limited to, the following: Satellite imagery collection and analysis[4]; surveillance drones[5]; the use of crowd mapping and social media platforms[6]; and Big Data and algorithmic, machine-learning techniques to process large volumes of digital data from multiple sources. Increasingly, these individual tools and techniques

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[2] Nathaniel A. Raymond, "Beyond 'Do No Harm' and Individual Consent: Reckoning with the Emerging Ethical Challenges of Civil Society's Use of Data," in *Group Privacy: New Challenges of Data Technologies,* ed. Linnet Taylor et al. (Cham: Switzerland, Springer International Publishing, 2017), 67-82.

[3] Christopher Tuckwood, "The State of the Field: Technology for Atrocity Response," *Genocide Studies and Prevention: An International Journal* 8, 3 (2014), 9. Our argument is concerned with different objectives than those articulated by Tuckwood, who argues that "recent years have seen a marked decline in the brand of 'cyber utopianism' that predicted the inevitable arrival of human rights and liberal democracy following rapidly on the heels of internet access in many of the world's dangerous places. Very few observers still believe that simply introducing an unspecified category of tools labeled 'technology' will be the panacea to defend human rights and save lives."

[4] Tanya Notley and Camellia Webb-Gannon, "FCJ-201 Visual Evidence from Above: Assessing the Value of Earth Observation Satellites for Supporting Human Rights," *The Fibreculture Journal* 27 (2016), accessed May 21, 2017, http://twentyseven.fibreculturejournal.org/2016/03/21/fcj-201-visual-evidence-from-above-assessing-the-value-of-earth-observation-satellites-for-supporting-human-rights/.

[5] Kristin Bergtora Sandvik and Kjersti Lohne, "The Rise of the Humanitarian Drone: Giving Content to an Emerging Concept," *Millennium-Journal of International Studies* 43, no.1 (2014), 145-164; Kristin Bergtora Sandvik and Maria Gabrielsen Jumbert, *The Good Drone* (New York: Routledge, 2016).

[6] Ryan Burns, "Rethinking Big Data in Digital Humanitarianism: Practices, Epistemologies, and Social Relations," *GeoJournal* 80, no. 4 (2015), 477-490.

are now being integrated together into combined applications that seek to fuse together several streams of data from different sources and formats into an amalgamated data product. While the deployment of each of these technologies takes place in discrete fields (humanitarianism, human rights, etc.) that are described and discussed by separate academic literatures, there is increasing recognition of responsible data management as *the* key crosscutting issue.[7]

The specific applications of these technologies and platforms are diverse and constantly evolving, but can be generally divided into two broad categories of prevention/response and justice/accountability: the uses that seek to create unique situational awareness for population protective purposes and informing response activities; and use cases aimed at detecting and/or documenting evidence of alleged crimes for judicial and/or advocacy purposes. In recent years, the intensifying adoption of the ICT technologies for mass atrocity response has commonly been presented as an expedient and substantive response to the gross human rights abuses arising from ongoing armed conflicts in non-permissive environments such as Syria, Iraq, South Sudan, Yemen, Libya and others. Additionally, the adoption of these technologies appears to be spurred, in large part, by a set of key factors, namely their comparatively low cost in comparison to other, analog interventions and their ability to be remotely deployed in highly lethal, non-permissive environments that preclude traditional, ground-based approaches.

"Hacking" Mass Atrocities: Technology Adoption as a Theory of Change
Thus, ICTs are now effectively treated as indispensable "force multipliers" that may either supplement or, in some cases, supplant mass atrocity responses that rely on humans physically making contact with other humans in the places where mass atrocity events are occurring. The adoption of an ever more technology-reliant and increasingly "remote" posture has encoded within it an implicit aspiration to literally predict, prevent and deter these crimes as a direct causal result of deploying these modalities. We propose that this increasingly publicly expressed vision that technology itself can fundamentally alter the calculus of whether and how mass atrocities occur demonstrates that civil society actors have done more than simply adopt tools and techniques: They have adopted a theory of change based on technological utopianism as well, a theory that posits technological change is inevitable, problem-free and progressive.

Technological utopianism is a belief in technological progress as inevitable, and in technology as the vehicle for "achieving a 'perfect' society in the near future."[8] This theory of change can be illuminated through Morozov's concept of "solutionism", described as "the idea that given the right code, algorithms and robots, technology can solve all of mankind's problems, effectively making life "frictionless" and trouble-free."[9] In the cybersecurity field, cyber-utopianism refers to "a naïve belief in the emancipatory nature of online communication," along with a refusal to acknowledge any negative impact of the Internet on society.[10] We argue that the emergence of ICTs as a perceived remote, force multiplication capability for civil society actors responding to alleged mass atrocities has, critically, dovetailed with the narrative that more information about a mass atrocity producing situation can intrinsically increase the chances of preventing or mitigating these scenarios. As Pryce writes in *How to Prevent a Mass Atrocity*,

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[7] Nathaniel A. Raymond, Ziad Al Achkar, et al, "Building Data Responsibility into Humanitarian Action," *United Nations Office for the Coordination of Humanitarian Affairs,* (2016). Also, Nathaniel A. Raymond, Caitlin Howarth, and Jonathan Hutson, "Crisis Mapping Needs an Ethical Compass," *Global Brief* 6 (2012), accessed May 21, 2017, http://globalbrief.ca/blog/2012/02/06/crisis-mapping-needs-an-ethical-compass/.

[8] Howard P. Segal, "The Technological Utopians," in *Imagining Tomorrow: History, Technology and The American Future*, ed. Joseph J. Corn, (Cambridge, MA: MIT Press, 1986).

[9] Ian Tucker, "We are Abandoning All the Checks and Balances," *The Guardian*, March 9, 2013, accessed May 21, 2017, https://www.theguardian.com/technology/2013/mar/09/evgeny-morozov-technology-solutionism-interview.

[10] Evgeny Morozov, *The Net Delusion: The Dark Side of Internet Freedom* (New York: Public Affairs, 2011). Milton Mueller, *What is Evgeny Morozov Trying to Prove? A Review of the Net Delusion* (Internet Governance Project, 2011), accessed May 21, 2017, www.internetgovernance.org/2011/01/13/what-is-evgeny-morozov-trying-to-prove-a-review-of-the-net-delusion.

> Early warning networks in countries at risk are essential, whether they involve tapping into worldwide Diasporas for the wealth of knowledge and contacts they provide, or making use of cell phone technology for immediate access to unfolding events.[11]

It should be noted that this perception is supported and reinforced by similar developments in adjacent fields of human security-related rescue and response. Generally, with the rise of Big Data, data visualization has become central to the understanding of societal problems and their potential solutions.[12] In the field of humanitarian action, a key driver behind the rise of technology is the increasing conflation between information and protection: embedded within the embrace of extensive monitoring is the implicit promise of better performance.[13] More broadly this is connected to the widespread notion that "knowing about atrocities" through imagery and other data streams somehow mobilizes empathy and engenders political action.[14]

Herscher describes how the public viewing of images was understood to motivate public action, and how, with the *Eyes on Darfur* Campaign, the public viewing of satellite images was viewed as public action in itself.[15] In a different example, an October 2010 report from ICT4D Foundation expresses the decidedly solutionist aspiration that the deployment of these technologies themselves can realize a "dream of rescue" for imperiled populations succinctly, stating:

> Civil society is becoming increasingly involved in the search and design of digital innovations for addressing the challenges of genocide. A recent example is Project 10^100, a competition hosted by Google, where the idea of creating a genocide monitoring and alert system was one of the sixteen finalists. The ideas included reducing crimes against humanity by aggregating data, including pertinent statistics, the history and geography of specific conflicts, local cultures, geostrategic interests, by using e.g. updated dynamic web maps and hand-held GPS devices…Done well and over the long-term, initiatives like these can prevent recurrence of genocide and mass atrocity crimes.[16]

As a result, the goal of using technology in mass atrocity response has become more ambitious than simply how these tools and techniques can better help responders simply collect, make sense of, and act upon information derived from ICTs. Somehow the use of technology may fundamentally short-circuit how, whether, and to what degree these abuses actually occur.

Contesting the ICT Progress Narrative
Power and Political Economy
In this part, we offer four lines of critique of the ICT progress narrative. The first concerns power and political economy. We argue that an initial problematic aspect of this idea of "hacking" mass atrocities is the invisibilization of existing and emergent power relationships: hence, for us, it is not the (contestable) newness of ICT for mass atrocity response that must be investigated, but the

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[11] Michael C. Pryce, "How to Prevent a Mass Atrocity," (n.d), accessed May 21, 2017, http://genocidewatch.net/genocide-2/articles-on-genocide/.

[12] Katharina Rall et al, "Data Visualization for Human Rights Advocacy," *Journal of Human Rights Practice* 8, no. 2 (2016), 171-197.

[13] Tina Comes, Kristin Bergtora Sandvik and Bartel De Walle, "Cold at Heart: A Critical Review of Technology for Keeping the Cool in Humanitarian Cold Chains." (Manuscript on file with authors). Also, Kristin Bergtora Sandvik and Katja Lindskov Jacobsen, *UNHCR and the Struggle for Accountability Technology, law and results-based management*, (Abingdon, Oxon: Routledge Humanitarian Studies, 2016).

[14] Richard Ashby Wilson and Richard D. Brown, *Humanitarianism and Suffering: The Mobilization of Empathy* (Cambridge, UK: Cambridge University Press, 2009).

[15] Andrew Herscher, "Surveillant Witnessing: Satellite Imagery and the Visual Politics of Human Rights," *Public Culture* 26, no. 3, 74 (2014), 469-500.

[16] Caroline Hargreaves and Sanjana Hattotuwa, "ICTs for the Prevention of Mass Atrocity Crimes," *Report on the World Summit on the Information Society Stocktaking*, ICT for Peace Foundation (October 2010), 4, accessed May 21, 2017, http://ict4peace.org/wp-content/uploads/2010/11/ICTs-for-the-Prevention-of-Mass-Atrocity-Crimes1.pdf.

power it represents.[17] Technology is not neutral. Instead of society passively adopting technology, technology and society engage in a mutually constitutive relationship.[18] Nevertheless, we do believe that the diffusion of non-human objects generates new political settlements," which, in themselves, constitute a form of institutional power, rather than an elimination of it.[19]

Understanding the political economy of ICT mass atrocity practice is important for understanding power relations.[20] Essentially, ICTs can serve as a platform on which hegemony can be promoted and existing power imbalances be reinforced, shifting the balance towards powerful institutions if the latter are able to strategically use ICTs as legitimating tools.[21] This also links to a more instrumental rationale of technological utopianism, namely that confident, solutionist claims made on behalf of technology's ability to address mass atrocity are part of a moral economy whereby established industry actors and startups developing and promoting ICT solutions are trying to gain legitimacy, visibility and a leg up in the burgeoning business of global emergencies under the heading of "humanitarian innovation," "peace innovation", and so forth.[22] Commentators have noted that generally, in the Tech for Good sector, technology often appears as a solution in need of a problem. This is also the case in mass atrocity response where "the choice of technology used for prevention activities sometimes appears to be supply-driven as opposed to demand-driven."[23] Similarly, many utopian progress claims have been made in the name of the arrival of "digital humanitarians" in the crisis response field (such as the Standby Task Force, the Humanitarian Open Street Map and the Digital Humanitarian Network).[24]

In short, we suggest that the uses of ICTs by a diverse conglomerate of non-governmental, governmental, and private sector actors centrally contains within it an assumption that the present and future committal of mass atrocities can itself be somehow hacked; and that this assumption serves as a vehicle for accumulating legitimacy, resources and projects. Meanwhile, the potential negative consequences of hacking what is often the application of military means by state and non-state actors is subsumed by the potential, though unproven, benefits of these inherently experimental applications of technology.

The Myth of the Ambient Protective or Preventative Effect
Our second line of critique concerns what we call the myth of the protective or preventative effect. Despite the broad adoption of ICT, and the broad claims made on behalf of its abilities to provide change, we argue that there is no extant base of scientific evidence that in any way suggests, let alone proves, the existence of what in our conceptualization can be referred to as a causal Protective or Preventative Effect (PPE) from the use of ICTs in mass atrocity producing environments. We put forward the idea that the Ambient Protective Effect (APE) is based on the assumption that increased volumes of unique otherwise unobtainable data over large-scale geographic areas and/ or non-permissive environments may cause one, some, or all of the following four outcomes to occur:

1. Deterrent APE: Perpetrators are less likely to act because of threat of having action documented.

[17] See Tuckwood, *The State of the Field*.

[18] Donald MacKenzie and Judy Wajcman, *The Social Shaping of Technology* (Buckingham: Open University Press, 1999).

[19] Daniel R. McCarthy, "Technology and 'the International' or: How I Learned to Stop Worrying and Love Determinism," *Millennium-Journal of International Studies* 41, no.3 (2013), 471, 489.

[20] Ella McPherson, *ICTs and Human Rights Practice, A report prepared for the UN Special Rapporteur on Extrajudicial, Summary, or Arbitrary Executions*, (2015), accessed May 21, 2017, https://www.repository.cam.ac.uk/handle/1810/251346.

[21] Ioannis Tellidis and Stefanie Kappler, "Information and Communication Technologies in Peacebuilding: Implications, Opportunities and Challenges," *Cooperation and Conflict* 51, no.1 (2016), 75-93.

[22] Kristin Bergtora Sandvik, "Humanitarian Innovation, Humanitarian Renewal?" *Forced Migration Review* (2014), 25-27.

[23] Francesco Mancini and Marie O'reilly, "New Technology and the Prevention of Violence and Conflict," *Stability: International Journal of Security and Development* 2, no. 3 (2013).

[24] Burns, *Rethinking Big Data*.

2. Public Outcry APE: Citizens in nations that have capability to interdict become more activated to push for interventions/protective actions because of immediacy/undeniability/ uniqueness of ICT derived/transmitted evidence.

3. Actionable intelligence APE: Governments are given new intelligence that they otherwise would not have, due to focus of NGOs on poorly monitored/lower politically valued locations, which causes them to act.

4. Early warning APE: Targeted communities have early warning that enables them to make better, quicker, more informed decisions that are potentially lifesaving.

Underlying these strands is a common conflation of how we intend technology to work and how we predict and measure its effect. Hence, we argue that these aspirations for the effects of technology use, effects that have frequently been seen as objectively resulting from its mere application, have no objective foundation.

The Potential for Harm
Our third line of critique concerns the awareness and acknowledgment of the possible direct and indirect negative effects of ICT. There are longstanding and well-articulated concerns about the use of data for example in the human rights field: data is non-existent or of poor quality due to collection problems or digital shadows; data suffers from bias; effective data analysis is hampered by low levels of data literacy in the practitioner community and so forth. The concern is that these weaknesses affect levels of credibility and accuracy, which is "the currency of human rights advocacy."[25] However, over the last five years, the domain of mass atrocity ICT has in itself emerged as a site of ethical precariousness.

As noted by Latonero and Gold, the "problem is that we simply do not know all the positive and negative impacts these new technologies will bring, which makes it difficult to make informed decisions in the present."[26] The problem is not only that well-intentioned data driven interventions may fail to assist (through bad strategic planning, insufficient resources or inattentiveness to context) but that they may even harm beneficiaries.[27] An important aspect of this development is what appears to be a very weak community-wide interest so far in the ethical dimensions of ICT use for mass atrocity-producing contexts.[28] Concerns have been emerging both with respect to the practices of the volunteer and tech community, and the information practices of the "walled garden" of human security professionals in the UN and INGO system.[29]

While many heavily promoted initiatives around cell phones proclaim that SMS codes can save lives, these detection and documentation focused initiatives seem to be generally unconnected to the response side of operations. Commenting on the celebrated crowd-seeded program Voix des Kivus, Pham and Vinck note that "there were no known efforts to respond to or address incidents or issues raised by cell phone holders."[30] Other times, information collection practices have lacked transparency and accountability, leading to suspicion by individuals and communities providing information.[31]

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[25] Rall, et al, *Data Visualization.*

[26] Mark Latonero and Zachary Gold, "Data, Human Rights & Human Security," *Human Rights & Human Security* (2015), 1-16.

[27] Ibid.

[28] Kate Crawford and Megan Finn, "The Limits of Crisis Data: Analytical and Ethical Challenges of Using Social and Mobile Data to Understand Disasters," *GeoJournal* 80, no. 4 (2015), 491-502.

[29] Megan Finn and Elisa Oreglia, "A Fundamentally Confused Document: Situation Reports and the Work of Producing Humanitarian Information," *Proceedings of the 19th ACM (Association for Computing Machinery) Conference on Computer-Supported Cooperative Work & Social Computing*. ACM, 2016.

[30] Phuong N Pham and Patrick Vinck, "Technology, Conflict Early Warning Systems, Public Health, and Human Rights," *Health and Human Rights* 14, no. 2 (2012), 106-117, accessed May 21, 2017, https://www.hhrjournal.org/2013/08/technology-conflict-early-warning-systems-public-health-and-human-rights/. See also Alexander Austin, "Early Warning and the Field: A Cargo Cult Science?" *Transforming Ethnopolitical Conflict* (Wiesbaden: VS Verlag für Sozialwissenschaften, 2004), 129-150.

[31] Finn, et al, *A Fundamentally Confused Document.*

Additionally, and crucially, emerging, though limited, evidence is beginning to suggest that the opposite of the intended PPE may, in fact, be occurring. A growing body of scholarship indicates that the attempt to project a PPE through technology may be, in some cases, both exposing affected civilian populations to new, rapidly evolving risks to their human security and negatively mutating the behavior of alleged mass atrocity perpetrators. Technology can have unpredictable or unpredicted knock-on effects: For example, crowd-sourced data is neutral in the sense that it can also be used to foment violence, for example by creating a riot, instead of preventing it.[32] In one available example, there is qualitative evidence that the presence of ICTs may cause governments to restrict a population's ability to communicate, as well as facilitate actions that further violence and make conflict dynamics more complex. Mancini and O'Reilly, discussing the use of ICTs during violent crisis in Kyrgyzstan in 2010, write:

> In a context where the government restricted the use of new technology, ICTs appeared to do little to facilitate a response from local authorities or international actors. On the contrary, the government elected to shut down some mobile networks. At the community level, actors using mobile phones and Internet websites did foster group action, but these technologies were predominantly used to help mobilize violent mobs, issue threats to the opposing community, and propagate conflict narratives.[33]

Another, primarily quantitative example indicates that ICTs may have, in at least one case, directly increased violence against the very vulnerable populations that the deployment of these tools and techniques was originally intended to protect. Gordon's study of Amnesty International's 2007-2008 *Eyes on Darfur* project, that monitored villages in the Darfur region of Sudan at risk for attack, provides some of the first evidence of a potential causal relationship between ICT use and direct harm on populations. Gordon argues that:

> …Amnesty's intervention increased violence in monitored villages and neighboring villages during the program as well as in subsequent years. Coupled with qualitative data, results suggest that the Government of Sudan increased violence to retaliate against Amnesty's advocacy efforts. This study highlights the potential for well-intentioned advocacy efforts to generate perverse effects.[34]

It should be reasonably assumed, sadly, that the incidents described above are likely not the only critical incidents that have occurred so far.

Lack of preparedness
Our fourth line of critique concerns the lack of collective consciousness and preparedness regarding these emergent risks. Despite these concerns being raised by multiple voices over the course of years, there has been no concerted, successful effort to date by the various sectors using ICTs in human security crises to develop common ethical, technical, and rights-based standards for their safe and responsible use.[35] Several reasons likely exist for the failure of the human rights and humanitarian sector to either proactively or responsively address the clear and present dangers that these new modalities and methods present for the vulnerable populations these groups seek to protect. We suggest that these factors may include concerns amongst practitioners that documenting and releasing evidence of critical incidents having occurred during their ICT-based projects could cause reputational damage and jeopardize current or future funding. Also of vital importance is a

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[32] Joseph G. Bock, "Firmer Footing for a Policy of Early Intervention: Conflict Early Warning and Early Response Comes of Age," *Journal of Information Technology & Politics*, 12, no. 1 (2015), 103-111.

[33] Mancini, *New Technology*.

[34] Grant Gordon, "Monitoring Conflict to Reduce Violence: Evidence from a Satellite Intervention in Darfur," (2016), accessed May 21, 2017, http://www.grantmgordon.com/wordpress/wp-content/uploads/2010/06/GG-EoD.pdf.

[35] See also Joseph G. Bock, "Technology and Vulnerability in Early Warning: Ethical Use of IT in Dangerous Places," *Information Technology for Development*, 22, no.4 (2016), 696-702.

lack of technical and ethical fluency amongst funding and supporting organizations about how to evaluate the potential harm these projects may inadvertently cause. Most critical, however, is the absence of a shared theory of harm and corresponding framework for applying it to these new and evolving ethical challenges.

Towards a Shared Theory of Harm
Regardless of the actual reasons for the lack of intentional and comprehensive action on these issues, it is the last point – the absence of a shared theory of harm and a corresponding framework for applying it – that represents the logical starting point for course correction by the sectors and actors engaged in this work. As noted by Latonero and Gold, "Harms from data revelations range from physical violence, to retribution, to shaming. Yet a more precise taxonomy of data related harms is needed."[36] An accepted, evidence-based theory of harm specific to the potential deleterious impacts resulting from current technical realities of the applications of ICTs in the mass atrocity response context is the first step for the development of any ethical framework for guiding this area of work.

In this article, we seek to articulate this initial theory of harm for ICT and digital data use in the mass atrocity response context. Our goal of doing so is to hopefully initiate a discussion within the fields of both research and practice that is grounded in reality, rather than in aspirations and assumptions, about how to move beyond the "dream of rescue" and the unproven solutionist myth of the PPE towards a rights-based ethical framework for these activities. With rights-based we do not refer to the kind of impossible-to-articulate-and-to-meaningfully-implement rights-based buzzword of the previous decade: our understanding is of rights-based as applying the rule of law and existing data protection and privacy guarantees fully and responsibly to the human insecurity/ crisis response field, as well as the concerted effort to identify and develop legal protection mechanisms for new threats posted by ICT use in the human security field.

Failure to develop an accepted theory of harm may mean that civil society will continue to accept the current status quo indefinitely under the auspices of innovating mass atrocity response. At the heart of the current context resulting from the absence of a shared theory of harm is a perceived imperative by civil society to continue to test and deploy largely untested and non-consented interventions in a host of worst-case scenarios because trying anything is seen as better than doing nothing.

Evidence of the dangers of this perceived worst-case scenario innovation imperative can be found in a recent case of the 2014-2015 West Africa Ebola Outbreak. During that crisis, Call Detail Records (CDRs) were collected from mobile phone networks for the ostensible purpose of tracing the spread of the disease. McDonald, in his paper *Ebola: A Big Data Disaster* describes this phenomenon in the context of Ebola as "disaster experimentation", writing:

> The chaos of humanitarian disaster often creates an implied social license for experimentation with new approaches, under the assumption of better outcomes. Vested interests dominate the public discussion of humanitarian data modeling, downplaying the dangers of what is essentially a public experiment to combine mobile network data and social engineering algorithms. In the case of using mobile network data to track or respond to Ebola, the approaches are so new–and generally so illegal– that most advocacy focuses on securing basic access to data. Advocates for the release of CDRs often paint an optimistic picture of its potential benefits, without applying the same rigor to the risks or likelihood of harm. This trades on the social license created by disaster to experiment with the lives of those affected, under the implicit assumption that it can't make the situation worse.[37]

The presiding paradigm can be seen as fundamentally treating highly vulnerable populations affected by extreme crisis events as experimental subjects of largely untested, non-consented,

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[36] Latonero, et al, *Data, Human Rights & Human Security.*

[37] Sean. M. McDonald, "Ebola: A Big Data Disaster. *Privacy, Property, and the Law of Disaster Experimentation*," CIS Papers (2016).

and remotely applied technological interventions.38 We are however concerned that as the scale and depth of global connectivity increases, the scale and nature of cyber-insecurity is being transformed from representing a nuisance or economic loss to encompass fundamental threats to human security that may themselves contribute to mass atrocity targeting and committal.39 ICT interventions in mass atrocity responses are often designed and deployed by actors often existing outside the affected communities themselves. What's more, the severity of the crisis event appears to serve as justification by human rights, humanitarian, and private sector actors for routinely abrogating certain categories of rights – i.e. privacy and human subject research protections - in the stated service of an unproven theoretical protective effect. This approach to the use of ICTs in mass atrocity producing contexts has inherently injected, however unintentionally, a utilitarian ethic of greater goods and trade-offs into this work at the expense of the do no harm ethics traditionally espoused by actors in this space. The phenomena of ad hoc prioritization of one set of rights over another by outside actors utilizing technology creates implicit hierarchies of rights and operational objectives that the subjects of these interventions have little to no consent as to whether, when, and how they are imposed.

In this article, we argue that as a community, we are causing harm through the current paradigm of deployment that will cause irreparable damage to populations in crisis and those who work with them. As a critical community, we need to do a better job of articulating the components of this claim. Without an accepted theory of harm grounded in the operational and technical realities of this work, this utilitarian ethic of disaster experimentation will likely persist and continue to evolve in unpredictable and dangerous ways. In our attempt to begin to articulate a theory of harm, we include five lines of argument.

Cyber Insecurity as Human Insecurity

As a first step, while the case that legal rights are being violated is increasingly made[40], we need to do the work of linking *data security* (privacy and data protection) and *cybersecurity* more comprehensively to *human security*.[41] The protection of social identity has been considered a key component of human security. We suggest that as social identity is increasingly constituted through information technology, threats to data protection and privacy can usefully be understood to now exist as core threats to human security. In 1994, the UN Human Development Report challenged the state-centered conception of security as pertaining to geopolitical issues, exploring the "new frontiers of human security in the daily lives of the people" by arguing that "[h]uman security is not a concern with weapons - it is a concern with human life and dignity."[42] Human vulnerabilities were therefore to be found across a range of issues, broadly categorized into security matters in the community, the economy, and the environment, as well as people's food security, and their health, political and personal security. Since then, contestations over human security's substance, its definitions of threats and vulnerabilities have been thoroughly examined.[43] We suggest that the concept of *human* security deepens the understanding of threats to both privacy and data protection by repositioning the physical individual at the center of the privacy and data protection discourse.

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38 Katja Lindskov Jacobsen, "Making Design Safe for Citizens: A Hidden History of Humanitarian Experimentation," *Citizenship Studies*, 14, no.1 (2010), 89-103. As noted by Katja Lindskov Jacobsen, experimentation on subjects in the human security field is nothing new; this was part and parcel of the colonial enterprise. She explains that humanitarianism's history cannot be understood apart from a history of experimentation, including experimental colonial and postcolonial endeavors in foreign territories and on foreign bodies to test new technologies and to make them safe for use by more valued citizens often located in metropolitan states.

39 Kristin Bergtora Sandvik, "The Humanitarian Cyberspace: Shrinking Space or an Expanding Frontier?" *Third World Quarterly* 37, no.1 (2016), 17-32.

40 McDonald, *Ebola.*

41 This section draws on Kristin Bergtora Sandvik, Mareile Kaufmann and Kjersti Lohne, "Terror Threats, Data Protection and Human Security: A Shifting Interface in Norwegian Law," 2011, on file with authors.

42 United Nations Development Program, *Human Development Report 1994* (New York and Oxford: Oxford University Press 1994), 3.

43 Taylor Owen, "Human Security- Conflict, Critique and Consensus: Colloquium Remarks and a Proposal for a Threshold-based Definition," *Security Dialogue* 35, 3 (2004), 373-387.

Emphasizing the universality of the concept, and in contrast to the use of human security as a foreign policy tool to look at "other" societies, we adopt Burgess and Tadjbakhsh's inward-looking perspective appraising personal integrity through data protection as an asset of value which belongs to the vital core of mass atrocity response. Our ambition here is to set the stage for a harm matrix by emphasizing the utility of human security as an analytic tool in order to comprehend the globalization of the erosion of "personal liberties as trade-offs to national security" where the individual moves to center stage; and to emphasize the way in which global civil society has become engaged in the capture, storage and distribution of personal data in a way that alters its compact with the populations it purports to act on behalf of.[44] The concept of human security is useful not only for the definition and identification of human in/securities, but also for evaluation and critique of those practices which make people insecure.[45] Considering the detachment of personal data from the individual as a process of dehumanization, we argue that the human security perspective, informed by stringent empirical analysis, can provide a theoretical starting point from which scholarship may help to bring back the human and reconnect the individual with its body of data now being generated in technologically driven mass atrocity responses.

What is the Risk: Ignoring Demographically Identifiable Information (DII)
A failure to understand the linkage between cyber security and human security; poor cyber security approaches or even blatant mistakes of such as losing, dumping or inadvertently releasing data can result in harm. Harm may also arise from a failure to calibrate the sensitive nature of the information one is releasing or sharing with third-parties with substandard cyber security practices or partners with commercial or political priorities that puts shared data at risk. Generally, there has been an increasing, if insufficient, acceptance across the sector of the problems related to collecting personal identifiable information (PII) from individuals in crisis; the challenges of obtaining informed individual consent; and the issues raised by resorting to implied or "good enough" consent.

However, we argue that DII is increasingly becoming a critical issue. It is critical in part because DII is being *explicitly subordinated to PII* in standards used by crisis responders.[46] While there is some mention of demographic information, it is often presented as a subset of personal identifiable information, such as name, age, ethnicity, etc. DII can include, though is not limited to PII, online data, geographic and geospatial data, environmental data, survey data, census data, and/or any other data set that can - either in isolation or in combination - enable the classification, identification, and/or tracking of a specific demographic categorization constructed by those collecting, aggregating, and/or cross-corroborating the data. [47]

Hence, as a second step in our attempt to articulate a theory of harm, we put forward the view that DII requires its own category and science of identifiable data specific to itself. This absence of a clearly articulated concept of DII is striking given its critical role in now common digital, networked data collection approaches, such as smartphone apps, social media, and any crowd-sourced platform offered by the private sector. The lack of a standard definition of this term is itself evidence of the enormity of the technical and doctrinal challenge that this type of data presents for all fields of data science, not only humanitarian and human rights applications of ICTs and the data derived from them. The importance of DII in civil society applications of ICTs and the data derived from them cannot be overstated. It may be argued that most, if not all civil society applications of ICTs and the data derived from them fundamentally aim to collect, analyze, and create actionable products either initially based upon and/or seeking to result in DII.[48]

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[44] Peter J. Burgess and Shahrbanou Tadjbakhsh, "The Human Security Tale of Two Europes," *Global Society* 24, no.4 (2010), 447-465.

[45] Alex J. Bellamy and Matt McDonald, "The Utility of Human Security: Which Humans? What Security? A reply to Thomas & Tow," *Security Dialogue* 33, no. 3 (2002), 373-377, 376.

[46] Raymond, *Beyond 'Do No Harm'*.

[47] Ibid.

[48] Ibid.

DII can be seen as, at first glance, ethically neutral by itself in many cases, without a seemingly obvious ethical imperative for a practitioner to immediately act upon. For example, the 2013 Red Cross Professional Standards for Protection Work, comparing the risks of aggregated data to sensitive individually identifiable data, seems to underplay the risks of these aggregated data sets, stating:

> Protection actors working with aggregated information, such as trend analysis, do not face the same challenges as the information they handle is less sensitive. They may feel less concerned by the standards and guidelines of this chapter. They should nevertheless be aware of the constraints of managing data on individuals and events, in order to understand how the information they are handling has been obtained.

The more, seemingly subtle ethical implications of DII are in stark contrast to many common types of PII encountered in the civil society context, such as raw, de-identified individual health records or refugee registration documents. DII's ethical implications largely results situationally from when, how, why, and from what combinations of initial sources it is derived and applied, rather than the more easily ethically categorized data that comprises PII. In other words, DII can result from the transformation of seemingly disparate, unrelated data sets into an amalgamated data product that can be easily weaponized into a means for doing harm. The potential harm of DII is often most apparent, if not entirely, to the perpetrator of potential harm, rather than to the holder of one or all of the pieces of a potentially actionable mosaic of DII.

Whereas PII's potential harm comes from when it is leaked or breached, DII's harm, and thus its ethical implications, often emanates from simply whether the possibility exists that it can be even created. This reality makes the overall ethical imperative to understand, manage, and protect potential sources of DII as important, if not more so in some cases, than those commensurate with holding only one source of PII.

Missing Conversations About Tradeoffs Before Tech Deployment Shape Outcomes
With new ways of seeing come new, correspondent ways of being blind. For example, with new means of mitigating one potential harm or risk (i.e. remote sensing mitigating threat to staff from deployment in dangerous environments) comes an increase in the potential willingness by organizations to act in ways that might harm vulnerable populations in exchange for enhanced staff protection through increased situational awareness. Another example concerns the application of ICT in early warning approaches, and the tradeoff between speed and accuracy, which affects the quality and reliability of the information collected.[49] The most important category of examples, however, concerns the uses of aggregate population data and personally identified data. These tradeoffs are dynamic by nature: As noted by Latonero and Gold, in an acute crisis, concerns over data privacy and data protection mechanisms may be low, but as the threat to life diminishes, the equation changes. They note that "such tradeoffs require measured assessments which are often unclear and ambiguous when data is readily available, easy to collect or simple to share." [50]

As a third step, we propose a closer focus on preparedness: We argue that mass atrocity and human security fields more broadly are characterized by missing conversations about tradeoffs before tech deployment: at its most general, this concerns the question of whether to deploy a particular technology or not; the choice between technological modalities and eventually costs and benefits in particular deployments. What's missing is both a structured process for having such conversations and a generalized perception that these conversations are *intrinsic* both to preparedness and accountability efforts. This also involves a consideration of the kind of tradeoffs taking place, but also the scope and nature of permissible tradeoffs: when does a particular class of tradeoffs become unethical? At present, this evolving economy of largely undocumented trade-offs related to technology are creating new power disparities and dichotomies that fundamentally

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[49] Pham, et al, *Technology, Conflict Early Warning Systems.*

[50] Latonero, et al, *Data, Human Rights & Human Security.*

favor the interests and operational needs of northern NGO, government, and corporate actors over the rights and needs of the subjects of these deployments, in many cases. These trade-offs are happening in often unacknowledged, sublimated ways that are left unsurfaced due to the sometimes pervasive presumption that somehow tech application for situational awareness is somehow separate and hermetically sealed off from risks incurred from ground interventions. Ironically, it may be argued that in fact the scale and scope of ICT related harm may, in some cases, potentially outstrip the harms incurred through ground action precisely because its remote nature somehow removes the perception that it can be harmful.

Taking Difference Seriously: Understanding the Incongruity between Data for Humanitarian Service Provision and Human Rights Truth Provision

This article focuses on mass atrocity response as part of the broader field of human security response. While this broad and very common categorization is helpful to articulate general problems, it also obscures fundamental differences in the objectives, practices, cultures and toolboxes of the various communities of practice that aim to protect or rescue civilians. In our view, in particular, this categorization obfuscates the growing split between human rights and humanitarians as crisis responding communities. This includes how this split shapes and is shaped by each group's use of data and the impact the use has on crisis affected individuals and communities. It also includes increasingly divergent perceptions of what responsible approaches to data collection, maintenance, storage and sharing of data look like. Here, as a fourth step, we point to the need for greater reflexivity: we argue that it is necessary for response actors to take the differences between the ideologies, means, methods and objectives of these communities seriously, and to more consciously reflect on the significance of this difference for one's own work.

At the outset, the moral underpinnings of these two communities are different: Humanitarianism is ideologically framed around the two imperatives of doing no harm and providing assistance according to need; as well as around adherence to core humanitarian principles of humanity, neutrality, impartiality and universality. The humanitarian field has a curious relationship to law and legal regulation: there is an erstwhile and enduring implicit relationship with the IHL modality of trade-offs; proportionality and acceptance of collateral damage if necessary for military gain. At the same time, the law of humanitarian action is fragmented and consists in large part of soft law initiatives surrounding service provision and the conduct of the service providers themselves in contexts of mass atrocities, crisis and other operational scenarios.

The human rights crisis response community is heavily regulated by international human rights law and core principles of non-discrimination. Human rights are also shaped by the regularity of states of exception and suspension of rights in times of crisis. Where humanitarianism has a problem with "politicization" of human security at the expense of responding to human need, the human rights framework conjures up panoply of possible tradeoffs in the interest of securing formal rights protection. As noted above, the product of the human rights community is accurate and credible information about human suffering and rights violations. In short, this community produces and provides "truth" in response to mass atrocities as the product of its operations.

These differences are highly relevant because they problematize the protection perspective: whether you approach data as a means to service provision or as a means to the provision of truth. These differences need to be taken into account as the mass atrocity community engages more comprehensively in exploring how problem definitions shape and are shaped by technology use. As noted above, a power perspective is required for making sense of how the interests of the larger industrial, corporate humanitarian and human rights complexes shape idiosyncratic notions of the harm matrix and where one's own work is situated. We suggest that through the insistence that one's own work has no possibility for physical impact (only providing truth) or is apolitical (only aiding the needy) members of each community not only wrongly attempt to exclude themselves from the harm matrix in the individual instance, but contribute to systemic abdication of responsibility for the potential harms caused by their data-driven interventions.

The Transformational Capacity of Cyber-Insecurity: Human Security Protection as Counter Intelligence?

The final element of our theory of harm relates to ourselves as mass atrocity responders. Some

concern has been directed at the potential damage arising from "bad apples" intent on causing harm by destroying or disrupting data flows. However, a more important and realistic danger is posed by the widespread and near-permanent state of cyber-insecurity in which human security responders find themselves, which may render them as vehicles for attacks by hostile actors. To put it bluntly, when we worry about human rights actors as spies, that is quaint – the critical concern is how what *we* are doing now provides capacities and capabilities for other people's spies. When civil society is cyber-attacked or cyber-exploited, it is not necessarily because attackers want to stop our activities but because we are a surfboard to accessing additional sources and methods in the control of civil society actors. Attackers are often mostly parasitic. This reality calls for a greater understanding of the very utilitarian nature of cyber-attacks, not as targeted acts of aggression violating rights to free speech or to organize, but as a business strategy – civil society is fast becoming an access point to a smörgåsbord of data, devices and institutions. In short –we are now an intelligence asset.

In practice, some human rights actors are taking the consequences of cyber vulnerability seriously, actively developing offensive counter-strategies. These activities can involve wiping context or providing malware to trace attackers. The result is, however, that we are becoming a surveillance actor. For practitioners, intelligence capability produces a unique situational awareness that is highly beneficial for advocacy. However, this capability also gives actors intending to commit atrocities the ability to make otherwise unavailable real time decisions. This paradox raises an important but little discussed issue: is it ethical for us to think about the fact that in the digital age, to protect mass atrocity operations, we have to engage in counter intelligence, to prepare and counter armed actors' attempts to exploit us; to study their perceptions and capabilities? Are we allowed to engage in deception and kinetic cyber counter-attacks against direct denial of service (DDS) attacks, for example? What would engaging in counter measures mean for the core obligations of human rights and humanitarian actors to protect civilians and respect human rights? Moreover, in the short to medium term, another issue will arise that adds increasing complexity to the do no harm imperative, namely the paradox of ICT counter intelligence activities becoming inextricably linked to the notion of responsible and ethical use of ICT technologies in mass atrocity contexts, resulting in the possibility that ethical ICT use can only happen with built-in counter intelligence components. This potential paradigm fundamentally challenges the do no harm approach and the sources of tradition and doctrine that have defined both humanitarian and human rights civil society sectors.

Conclusion

In this article, we have attempted to begin to articulate the components of a shared theory of harm. Our concluding observations concern ethics and evidence. Developing ethical frameworks to guide emergent technologies is a complex endeavor, and such frameworks have a temporary nature. We are not advocating the adoption of a permanent convention or similar instruments. What we are asking, is that the human security community broadly speaking—particularly mass atrocity responders, such as humanitarians, human rights advocates and peace builders— come to terms with the fact that there is a difference between knowing about alleged atrocities and doing something about them; monitoring a mass atrocity crime is different and distinct from preventing it or protecting against its effects. We are also asking that the members of this broad and diverse community to begin to take seriously the fact that ICT use can cause real harm to civilians.

We argue that there is a need to talk about critical incidents stemming from these interventions openly and transparently— not as urban rumors, not as scandal but in the structured form of after action processes. If we can't collect evidence about failure, we are not a scientific evidence based profession— we are not learning and we cannot become ethical in our approach to ICT. Instead, we will become, however unintentionally, a post-ethical and extra-legal field. Civil society requires a means for logging and evaluating critical incidents, including standard definitions and procedures used by funders, governments, and local communities, etc., to evaluate the impact of these projects. In this regard, the imperative to consider ethics must be emphasized as a prerequisite for fulfilling the obligation to do no harm.

It should be emphasized that in itself, the absence of empirical evidence of impact and risk fundamentally makes this project of ICT use problematic. The ethics and evidence of technical opportunities, limitations, and liabilities are intrinsically entwined into the development of each other. If we don't have ethics in our science, we can't responsibly collect results from evidence. Conversely, if we don't have scientifically obtained results from evidence, we can't shape our ethics to be inclusive of the likely modalities of our potential activities and manage their intended and unintended outcomes. Ethics without evidence is impossible. Valid evidence without ethics is also impossible.

This enterprise also entails renegotiating the ethical compact of the human rights and humanitarian fields for the digital age: Current ethical doctrine is based on operational and contextual assumptions from a bygone era (i.e. the 20th century). These "unitary" ethical and protection doctrines were based on direct information collection of PII from individuals, thus the ethical compact between providers and advocates with the populations they encountered is based on a technical reality and value proposition rooted in conceptions of data technologies and expectations of data control that no longer fully apply. The continued use of outmoded ethics in the age of ICTs is, in itself, an unethical act. For even the patina of "ethicality" to be restored to these fields that now more and more rely on ICTs for basic workflows, this "compact" must be reexamined and ultimately renegotiated.

Finally, in a post-Snowden era when global military surveillance is occurring, it is now a key part of the humanitarian imperative to be able to demonstrate why using digital data and platforms in operations *does not* affect the ethical commitment to do no harm to beneficiaries. Our task as academics and researchers is to establish empirical evidence and pedagogic narrative of impact—both positive and negative alike—with clarity and honesty about the current context, which, increasingly, is defined by cyber-insecurity and cyber-warfare.

Bibliography

Austin, Alexander. "Early Warning and the Field: A Cargo Cult Science?" *Transforming Ethnopolitical Conflict*. Wiesbaded: VS Verlag für Sozialwissenschaften, 2004. 129-150.

Bellamy, Alex J. and Matt McDonald. "The Utility of Human Security: Which humans? What Security? A Reply to Thomas & Tow." *Security Dialogue* 33, no. 3 (2002): 373-377. https://doi.org/10.1177/0967010602033003010

Bock, Joseph G. "Firmer Footing for a Policy of Early Intervention: Conflict Early Warning and Early Response Comes of Age." *Journal of Information Technology & Politics*, 12, no. 1 (2015): 103-111. https://doi.org/10.1080/19331681.2014.982265

--------. "Technology and Vulnerability in Early Warning: Ethical Use of IT in Dangerous Places." *Information Technology for Development*, 22, no. 4 (2016): 696-702. https://doi.org/10.1080/02681102.2014.903894

Burgess, J. Peter and Shahrbanou Tadjbakhsh. "The Human Security Tale of Two Europes." *Global Society* 24, no.4 (2010): 447-465. https://doi.org/10.1080/13600826.2010.508334

Burns, Ryan. "Rethinking Big Data in Digital Humanitarianism: Practices, Epistemologies, and Social Relations." *GeoJournal* 80, no. 4 (2015): 477-490. https://doi.org/10.1007/s10708-014-9599-x

Comes, Tina, Kristin Bergtora Sandvik, and Bartel De Walle. "Cold at Heart: A Critical Review of Technology for Keeping the Cool in Humanitarian Cold Chains." (On file with authors.)

Crawford, Kate and Megan Finn. "The Limits of Crisis Data: Analytical and Ethical Challenges of Using Social and Mobile Data to Understand Disasters." *GeoJournal* 80, no.4 (2015): 491-502. https://doi.org/10.1007/s10708-014-9597-z

Finn, Megan and Elisa Oreglia. "A Fundamentally Confused Document: Situation Reports and the Work of Producing Humanitarian Information." *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing*. ACM (Association for Computing Machinery), 2016. https://doi.org/10.1145/2818048.2820031

Gordon, Grant. "Monitoring Conflict to Reduce Violence: Evidence from a Satellite Intervention in Darfur." (2016). Accessed May 21, 2017. http://www.grantmgordon.com/wordpress/wp-content/uploads/2010/06/GG-EoD.pdf.

Hargreaves, Caroline and Sanjana Hattotuwa. "ICTs for the Prevention of Mass Atrocity Crimes." *ICT for Peace Foundation (October 2010)*. Accessed May 21, 2017. http://ict4peace.org/wp-content/uploads/2010/11/ICTs-for-the-Prevention-of-Mass-Atrocity-Crimes1. pdf."Report on the World Summit on the Information Society Stocktaking.

Herscher, Andrew. "Surveillant Witnessing: Satellite Imagery and the Visual Politics of Human Rights." *Public Culture* 26, no. 3, 74 (2014): 469-500.

Latonero, Mark and Zachary Gold. "Data, Human Rights & Human Security." (2015): 1-16. Accessed May 21, 2017. https://ssrn.com/abstract=2643728.

Jacobsen, Katja Lindskov. "Making Design Safe for Citizens: A Hidden History of Humanitarian Experimentation." *Citizenship Studies* 14, no.1 (2010): 89-103. https://doi.org/10.1080/13621020903466399

Mancini, Francesco and Marie O'reilly. "New Technology and the Prevention of Violence and Conflict." *Stability: International Journal of Security and Development* 2, no. 3 (2013).

McCarthy, Daniel R. "Technology and 'the International' or: How I Learned to Stop Worrying and Love Determinism." *Millennium-Journal of International Studies* 41, no.3 (2013): 470-490. https://doi.org/10.1177/0305829813484636

McDonald, Sean. M. "Ebola: A Big Data Disaster. *Privacy, Property, and the Law of Disaster Experimentation.*" *CIS Papers* (2016).

MacKenzie, Donald and Judy Wajcman. *The Social Shaping of Technology*. Buckingham: Open University Press, 1999.

McPherson, Ella. *ICTs and Human Rights Practice: A Report Prepared for the UN Special Rapporteur on Extrajudicial, Summary, or Arbitrary Executions*. (2015). Accessed May 21, 2017. https://www.repository.cam.ac.uk/handle/1810/251346.

Morozov, Evgeny. *The Net Delusion: The Dark Side of Internet Freedom*. New York: Public Affairs, 2011.

Mueller, Milton. *What is Evgeny Morozov Trying to Prove? A Review of the Net Delusion*. (Internet Governance Project, 2011). Accessed May 21, 2017. www.internetgovernance.org/ 2011/01/ 13/ what- is- evgeny- morozov- trying- to- prove- a- review- of- the- net- delusion.

Notley, Tanya and Camellia Webb-Gannon. "FCJ-201 Visual Evidence from Above: Assessing the Value of Earth Observation Satellites for Supporting Human Rights." *The Fibreculture Journal* 27 (2016). Accessed May 21, 2017. http://twentyseven.fibreculturejournal.org/2016/03/21/fcj-201-visual-evidence-from-above-assessing-the-value-of-earth-observation-satellites-for-supporting-human-rights/.

Owen, Taylor. "Human Security-Conflict, Critique and Consensus: Colloquium Remarks and a Proposal for a Threshold-based Definition." *Security Dialogue* 35, no. 3 (2004): 373-387. https://doi.org/10.1177/0967010604047555

Pham, Phuong N. and Patrick Vinck. "Technology, Conflict Early Warning Systems, Public Health, and Human Rights." *Health and Human Rights* 14, no. 2 (2012): 106-117. Accessed May 21, 2017. https://www.hhrjournal.org/2013/08/technology-conflict-early-warning-systems-public-health-and-human-rights/.

Pryce, Michael C. "How to Prevent a Mass Atrocity" (n.d.). Accessed May 21, 2017. http://genocidewatch.net/genocide-2/articles-on-genocide/.

Rall, Katharina, et al. "Data Visualization for Human Rights Advocacy." *Journal of Human Rights Practice* 8, no. 2 (2016): 171-197. https://doi.org/10.1093/jhuman/huw011

Raymond, Nathaniel A., Ziad Al Achkar, et al. "Building Data Responsibility into Humanitarian Action." *United Nations Office for the Coordination of Humanitarian Affairs,* (2016).

Raymond, Nathaniel A., Caitlin Howarth, and Jonathan Hutson. "Crisis Mapping Needs an Ethical Compass." *Global Brief* 6 (2012). Accessed May 21, 2017. http://globalbrief.ca/blog/2012/02/06/crisis-mapping-needs-an-ethical-compass/.

Raymond, Nathaniel A. "Beyond 'Do No Harm' and Individual Consent: Reckoning with the Emerging Ethical Challenges of Civil Society's Use of Data." In *Group Privacy: New Challenges of Data Technologies,* edited by L. Taylor, L. Floridi, & B. van der Sloot, 67-82. Cham, Switzerland: Springer International Publishing, 2017. https://doi.org/10.1007/978-3-319-46608-8_4

Sandvik, Kristin Bergtora and Kjersti Lohne. "The Rise of the Humanitarian Drone: Giving Content to an Emerging Concept." *Millennium-Journal of International Studies* 43, 1 (2014): 145-164. https://doi.org/10.1177/0305829814529470

Sandvik, Kristin Bergtora, Mareile Kaufmann, and Kjersti Lohne. "Terror Threats, Data Protection and Human Security: A Shifting Interface in Norwegian Law." 2011. (On file with authors.)

Sandvik, Kristin Bergtora and Maria Gabrielsen Jumbert. *The Good Drone*. New York: Routledge, 2016.

Sandvik, Kristin Bergtora and Katja Lindskov Jacobsen. *UNHCR and the Struggle for Accountability Technology, law and results-based management*. Abingdon, Oxon: Routledge Humanitarian Studies, 2016.

Sandvik, Kristin Bergtora, et al. "Humanitarian Technology: A Critical Research Agenda." *International Review of the Red Cross* 96.893 (2014): 219-242. https://doi.org/10.1017/S1816383114000344

Sandvik, Kristin Bergtora. "Humanitarian Innovation, Humanitarian Renewal?" *Forced Migration Review* (2014): 25-27.

--------. "The Humanitarian Cyberspace: Shrinking Space or an Expanding Frontier?" *Third World Quarterly* 37, 1 (2016): 17-32. https://doi.org/10.1080/01436597.2015.1043992

Segal, Howard. P. "The Technological Utopians." In *Imagining Tomorrow: History, Technology and The American Future*, edited by Joseph J. Corn, 119-136. Cambridge, MA: MIT Press, 1986.

Straus, Scott. "Identifying Genocide and Related Forms of Mass Atrocity." *United States Holocaust Memorial Museum* 7 (2011). Accessed May 21, 2017. https://www.ushmm.org/m/pdfs/20111219-identifying-genocide-and-mass-atrocity-strauss.pdf.

Tellidis, Ioannis and Stefanie Kappler. "Information and Communication Technologies in Peacebuilding: Implications, Opportunities and Challenges." *Cooperation and Conflict* 51, no.1 (2016): 75-93. https://doi.org/10.1177/0010836715603752

Tucker, Ian. "We are Abandoning All the Checks and Balances" (2013). Accessed May 21, 2017. https://www.theguardian.com/technology/2013/mar/09/evgeny-morozov-technology-solutionism-interview.

Tuckwood, Christopher. "The State of the Field: Technology for Atrocity Response." *Genocide Studies and Prevention: An International Journal* 8, 3 (2014): 9.

United Nations Development Program. *Human Development Report 1994*. New York and Oxford: Oxford University Press.

Wilson, Richard Ashby and Richard D. Brown. *Humanitarianism and Suffering: The Mobilization of Empathy*. Cambridge, UK: Cambridge University Press, 2009.

MediCapt in the Democratic Republic of the Congo: The Design, Development, and Deployment of Mobile Technology to Document Forensic Evidence of Sexual Violence

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Introduction

This year marked the 70th anniversary of the verdicts of the International Military Tribunal at Nuremberg,[1] a milestone that precipitated the emergence of modern international criminal law.[2] Despite significant evolution in that body of law since 1946, it was not until 1998 that international courts and tribunals began prosecuting charges of rape during conflict as a grave offence in its own right.[3] Even so, these cases remain notoriously difficult to prosecute. Many survivors of sexual violence choose not to report the violations for fear of reprisals, re-traumatization, community and family rejection, and economic hardship. And in cases where survivors do dare to come forward, their cases often fail due to lack of adequate evidence to support their allegations. This is true in international courts and tribunals as well as in judicial processes at the national level.[4] The problem is especially acute in the Democratic Republic of the Congo (DRC), a country that has suffered war and profound violence for more than 20 years and has notoriously been described as the "rape capital of the world."[5]

In response to this crisis, Physicians for Human Rights (PHR), a U.S.-based international NGO, launched in 2011 the Program on Sexual Violence in Conflict Zones,[6] a multi-year training and advocacy initiative designed to reinforce national prosecutions for sexual violence cases. We train doctors, nurses, social workers, police officers, lawyers, and judges to enhance their technical capacity in two key areas: the provision of medical care and treatment to survivors of sexual violence; and the collection, documentation, analysis, management, and preservation of forensic evidence to support effective investigations and prosecutions of these crimes. Through multi-sectoral training, these stakeholders come to appreciate their respective roles in the judicial

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[1] *Trial of the Major War Criminals Before the International Military Tribunal: Nuremberg 14 November 1945 – 1 October 1946,* (Nuremberg: International Military Tribunal, 1947), accessed November 22, 2016, https://www.loc.gov/rr/frd/Military_Law/pdf/NT_Vol-I.pdf.

[2] "70th Anniversary of the Verdicts of the International Military Tribunal, 01 October 2016," *International Nuremberg Principles Academy*, October 10, 2016, accessed November 22, 2016, http://www.nurembergacademy.org/events/70th-anniversary-of-the-verdicts-of-the-international-military-tribunal-01-october-2016/.

[3] The Prosecutor v. Jean-Paul Akayesu Case No. ICTR-96-4-T (1998) marked the first time an international tribunal (the International Criminal Tribunal for Rwanda) considered rape as a grave offence constituting a crime against humanity and an element of genocide. See "AKAYESU, Jean Paul (ICTR-96-4)," *United Nations Mechanism for International Criminal Tribunals*, accessed November 22, 2016, http://unictr.unmict.org/en/cases/ictr-96-4. The Prosecutor v. Jean-Pierre Bemba Gombo ICC-01/05-01/08 (March 2016) was where the International Criminal Court for the first time fully recognized in a verdict the crime of rape as a weapon of war. See "Case Information Sheet: The Prosecutor v. Jean-Pierre Bemba Gombo," *International Criminal Court*, July 26, 2016, accessed November 22, 2016, https://www.icc-cpi.int/car/bemba/Documents/BembaEng.pdf. See also Kelly D. Askin, "Prosecuting Wartime Rape and Other Gender-Related Crimes under International Law: Extraordinary Advances, Enduring Obstacles," *Berkeley Journal of International Law* 21, no. 2 (2003), 288.

[4] Nduku Kilonzo, et al, "Sexual Violence Legislation in sub-Saharan Africa: The Need for Strengthened Medico-legal Linkages," *Reproductive Health Matters* 17, no. 34 (2009), 10-19.

[5] "Tackling Sexual Violence Must Include Prevention, Ending Impunity – UN official," *UN News Centre*, April 27, 2010, accessed November 22, 2016, http://www.un.org/apps/news/story.asp?NewsID=34502#.WDC1A7IrKUk.

[6] "Program on Sexual Violence in Conflict Zones," *Physicians for Human Rights*, accessed November 22, 2016, http://physiciansforhumanrights.org/issues/rape-in-war/program-on-sexual-violence-in-conflict-zones.html.

process, and we help cultivate sustainable networks of collaboration among medical and legal professionals who can work together across sectors on a case-by-case basis to better support the survivor at the center of the process.[7] The program has been actively engaged in DRC and Kenya, as both countries have endured widespread, conflict-related sexual violence; both countries ratified the Rome Statute for the International Criminal Court and were each being investigated for mass crimes by the ICC[8]; both have implemented national constitutional and legislative reforms to strengthen the laws supporting stronger responses to sexual violence; and both have a growing cadre of trained medical and legal professionals who are skilled and interested in learning new forensic techniques for gathering evidence to support judicial processes.

In support of these programmatic goals, since 2012, PHR has been developing MediCapt,[9] a mobile phone app meant to assist health professionals conducting medical exams in sexual violence cases. A smartphone application, MediCapt combines a custom-designed medical intake form for forensic documentation with secure mobile camera functionality for forensic photography. By combining these components, MediCapt helps to standardize and preserve critical forensic evidence of sexual violence. Clinicians can use the app to compile medical evidence, photograph survivors' injuries, and securely transmit the data to their law-enforcement counterparts who may be located at a police station several kilometers away. This tool includes sophisticated encryption, cloud data storage, and tamper-proof metadata, and it meets best practices for chain-of-custody considerations in evidence collection.

In many ways, eastern Congo is an unlikely place to launch a smartphone-based app to assist medical and legal professionals. When PHR first began exploring solutions with our Congolese partners, very few people had smartphones and there were major problems with the reliability of Internet access compounded by low bandwidth. But, as others have noted elsewhere,[10] mobile phone use in Sub-Saharan Africa is becoming increasingly widespread and the range of possibilities opened up by deploying technology to help hold perpetrators of human rights violations accountable for their crimes is vast and potentially transformative.

This review essay will provide an overview of the MediCapt app and the steps PHR has taken to design, develop, and field-test the app in DRC. It will also explore advocacy opportunities that the app's emerging technology may facilitate down the road. This review essay will also identify the many challenges and questions that we have grappled with and lessons learned as we seek to deploy MediCapt in a low-resourced and politically unstable context and to take it to scale beyond DRC. Finally, in sharing the details of this case study, we hope to emphasize both the promise of new mobile technology for human rights organizations as well as the significant legal and ethical responsibilities that accompany it.

Conceptualizing MediCapt
From the outset, PHR identified medical professionals in particular as potentially powerful change agents, and intervened at a practical level to devise a way for clinicians to work directly with their law enforcement and legal colleagues to change how survivors receive medical care and access justice. During our earliest assessments in DRC in 2010 and 2011, we established that the evidence coming before national (military and civilian) courts was weak because, among other determining factors, clinicians were not conducting forensic medical evaluations of sexual violence survivors; medical charts were not being kept, or were incomplete and illegible; and clinicians were not using

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[7] Over the last five years, we have trained more than 1,500 health care providers, police officers, lawyers (prosecutors and defense counsel), magistrates, and judges around Kenya, DRC, and elsewhere.

[8] The ICC was or is investigating numerous cases regarding the situations in the DRC and Kenya, respectively. See "Situations under Investigation," *International Criminal Court*, accessed November 22, 2016, https://www.icc-cpi.int/pages/situations.aspx.

[9] In 2013, MediCapt won first place in the Safe Documentation category in the USAID-Humanity United Tech Challenge for Atrocity Prevention. See "PHR wins 2013 Tech Challenge for Atrocity Prevention with Mobile App," *Physicians for Human Rights*, February 13, 2013, accessed November 22, 2016, http://physiciansforhumanrights.org/press/press-releases/phr-wins-2013-tech-challenge-for-atrocity-prevention-with-mobile-app.html.

[10] Christopher Tuckwood, "The State of the Field: Technology for Atrocity Response," *Genocide Studies and Prevention: An International Journal* 8, no. 3 (2014), 81-88.

forensic photography to document physical injuries sustained. We also noted that the medical, law enforcement, and legal communities tended to work in silos and stakeholders did not coordinate across sectors; nor did they share the same language or professional terminology, understand each other, or appreciate their respective roles in the justice process.

Through PHR's training workshops and advocacy initiatives, we worked with these medical and legal professionals to identify low-tech solutions to overcome some of these hurdles, taking into account limited resources and varying technical skills. One of the most successful initiatives we implemented, in close collaboration with our medical-legal network partners in eastern DRC, was the development of a standard medical intake form to document forensic medical evidence of sexual violence. Building on post-rape care forms used in other countries, including Kenya[11], South Africa[12], and the United States[13], we developed the form with our Congolese colleagues and made sure it both met commonly accepted global practices and was also responsive to the cultural, legal, and resource-constrained contexts of the DRC. The standard form helps to reinforce the documentation of comprehensive data and consistent interpretation of medical findings; it prompts clinicians to ask more questions and collect more data; it reduces the opportunity for clinicians to include non-probative conclusions; and it streamlines the laborious documentation process by asking clinicians to check boxes and draw on pictograms rather than write out lengthy narratives (which can be especially challenging and time-consuming in low-literacy environments). And, because of the printed format, the standard form is easily legible, making it accessible to non-clinicians (police officers, lawyers, and judges) for use in their investigations, prosecutions, and adjudication of these cases.[14] This standard form, known locally as the Medical Certificate, was featured as a model template in the International Protocol on the Documentation and Investigation of Sexual Violence in Conflict, launched by the United Kingdom in June 2014.[15]

While the emergence of the standard form helped to enhance forensic medical documentation in individual cases, we also noted that sexual violence cases were still stymied by basic infrastructure hurdles (e.g., poor roads, which impedes the delivery of documentation) and resource constraints (e.g., paper and pens to document evidence are often in short supply, and police officials often lack funds for petrol or access to vehicles to travel to a health clinic or crime scene). Through our sustained presence working with these communities, we were also acutely aware of the daily risks that medical, law enforcement, and legal professionals face by retaining hard copies of sensitive documentation, especially in hostile political environments. Community police stations sometimes lack storage resources, so sensitive case files can be left open on the dirt floor, where evidence could easily be lost or compromised. And frontline first responders and other stakeholders may themselves be threatened for preserving evidence as this material can incriminate alleged perpetrators. We also work with senior military judges who feared evacuating from their own homes in the middle of conflict – despite the fact that they were being personally targeted by rebel

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[11] See *National Guidelines on Management of Sexual Violence in Kenya,*" 3rd ed., 2014, accessed November 22, 2016, https://www.law.berkeley.edu/wp-content/uploads/2015/10/Kenya_Natl-Guidelines-on-Mgmt-of-Sexual-Violence_3rd-Edition_2014.pdf.

[12] See *National Management Guidelines for Sexual Assault*, 2003, accessed November 22, 2016, http://www.cecinfo.org/custom-content/uploads/2012/12/SouthAfrica-Sexual-Assault-Guidelines-2003.pdf.

[13] National Protocol for Sexual Assault Medical Forensic Examinations, US Department of Justice, Office on Violence Against Women, 2013, accessed November 22, 2016, https://www.ncjrs.gov/pdffiles1/ovw/241903.pdf. California Medical Protocol for Examination of Sexual Assault and Child Sexual Abuse Victims, 2001, accessed November 22, 2016, http://www.caloes.ca.gov/GrantsManagementSite/Documents/2-923%20to%202-950%20Protocol.pdf.

[14] The South Kivu medical-legal network began using a hard copy version of this form in sexual violence cases in 2012, and in June 2016 national authorities in Kinshasa (the Ministries of Justice, Defense, Health, Interior, and Women, Family, and Children (formerly Gender), along with The President's Special Representative on Sexual Violence in Conflict and the Recruitment of Child Soldiers) obtained consensus to adopt the medical certificate nationally.

[15] See "Annex 10: Sample sexual assault medical certificate," *International Protocol on the Documentation and Investigation of Sexual Violence in Conflict*, (London: Foreign & Commonwealth Office, 2014), 138, accessed November 22, 2016, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/319054/PSVI_protocol_web.pdf; Second edition of the International Protocol on the Documentation and Investigation of Sexual Violence in Conflict, accessed March 30, 2017, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/598335/International_Protocol_2017_2nd_Edition.pdf.

factions – because they did not want to leave behind several years' worth of sensitive documentation from the many mass crimes cases over which they presided in mobile courts. These judges worried about the destruction of these court records as well as the safeguarding of witnesses, survivors, and others involved in prosecuting these difficult cases.

Taking all of these infrastructural and political challenges into account, and building from the simple but powerful innovation of the standard form, PHR conceptualized a mobile app that sought to overcome these obstacles while at the same time facilitating comprehensive forensic documentation of evidence, safeguarding it from loss or willful tampering or destruction, and creating secure channels to transmit evidence from the health clinic to the police stations and courts.
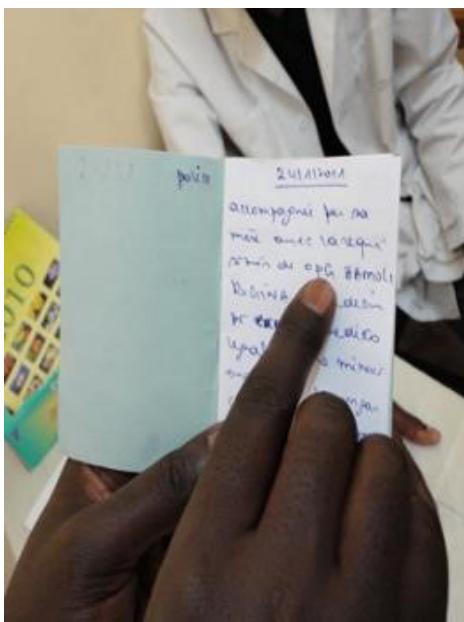
Figure 1. A typical medical record or "carnet" at a health center in DRC.

Figure 2. A portion of the standard medical intake form for sexual violence developed in DRC.

Early Design, Field Testing, and End User Feedback

In a setting in which forensic medical exams are rarely conducted, or conducted poorly, MediCapt was designed, first and foremost, to allow clinicians to collect and document medical evidence of sexual violence in a standardized, systematic manner. The app's early versions were essentially digitized configurations of the standard form into a digital format. Intended to reproduce the standard form, the app, however, also provides clinicians with prompts (demographics, history, physical, mental health) that may serve to enhance the quality of the medical encounter by reminding clinicians about the degree of comprehensiveness required (conducting a full body exam, taking forensic photos of injuries, requesting lab tests where possible) and providing them with decision support. This feature, subsequently, may enhance the care given to the survivor and the overall clinical skills of the physician. Once the evidence is collected, we envisioned an app that would securely transmit the data to law enforcement and the justice system, circumventing infrastructural barriers, overcoming communication barriers, and preventing the loss, destruction, or inadequate storage of data and evidence.
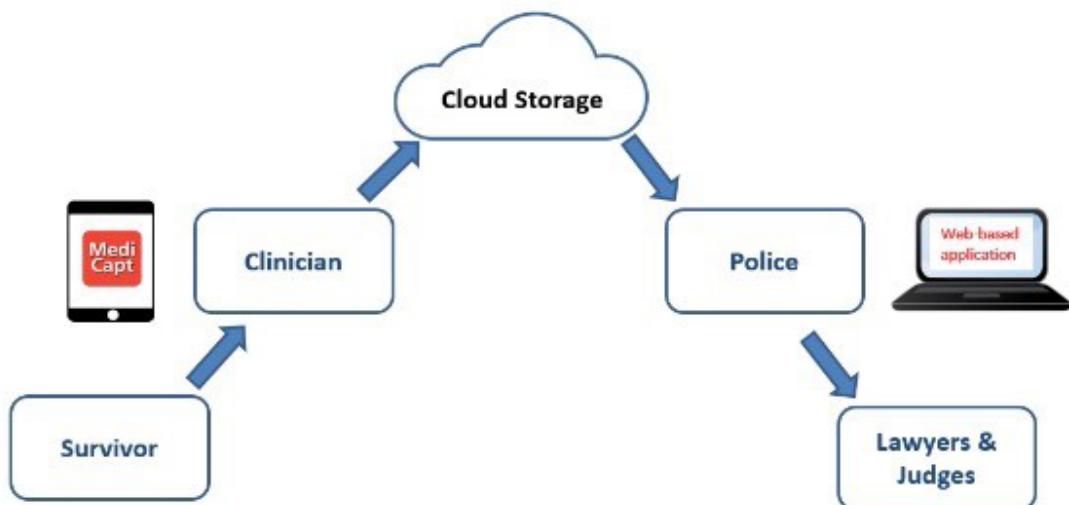
Figure 3. Proposed flow of information through the use of MediCapt.

The initial prototype - a simple conversion of the sexual violence standard form to a digital format - used an off-the-shelf, third-party platform called Magpi and contained more than 250 entries using simple logic features. In January 2014, PHR piloted this early iteration of MediCapt with eight Congolese physicians from Bukavu, Minova, and Uvira in eastern DRC who had previously participated in PHR's forensic training. These clinicians provided frank feedback and quickly became our collaborators in the app's design. While the clinicians liked the concept of the app and saw the benefits of digitizing the standard medical certificate, they also helped identify two key areas for improvement: a cumbersome user interface and the absence of any photo capture capacity. Moreover, despite building logic into the app, the clinicians requested a more intuitive interface, the ability to use a secured camera to take photographs, and additional functionalities such as a writable pictogram.

Following this first round of field-testing in DRC, PHR engaged a technology development company, Main Street Computing, to conduct a thorough needs assessment, user analysis, and technology landscape review. After determining that no other existing technology met the specific

needs articulated by the end users, we started from scratch to develop a completely new version of MediCapt. Given this opportunity, we chose to future-proof the technology – to ensure MediCapt maintains the ability to be a dynamic, nimble technology that can respond to different needs and contexts as appropriate. In other words, MediCapt is designed to be able to accommodate the relevant form required in different legal jurisdictions. The overall MediCapt architecture is now built as a modular system to allow for the creation of different forms and corresponding app skins. Significantly, the app is also designed to also accommodate the various languages and literacy levels of its users. With a robust forms-creation and forms-management backbone, MediCapt can now be used not only for the standard form in DRC, or any post-rape care or sexual violence standard form, but also for other human rights documentation and data collection efforts.[16]

MediCapt's Key Features
Working with technologists at Main Street Computing, we decided to disaggregate the goals of MediCapt, separating them into two separate objectives: the capture of details of a forensic medical evaluation, and the use of those details in the pursuit of justice. To execute this newly refined vision, we created both an Android app that would be used by the medical sector (data generators) and a web app that would be accessed by law enforcement in their investigations, by the judicial system as evidence of a sexual violence crime, and by PHR researchers (data retrievers) in a de-identified, aggregated manner for early detection of mass crimes and to trigger rapid response. This diagram outlines the approach used in developing MediCapt 2.0:
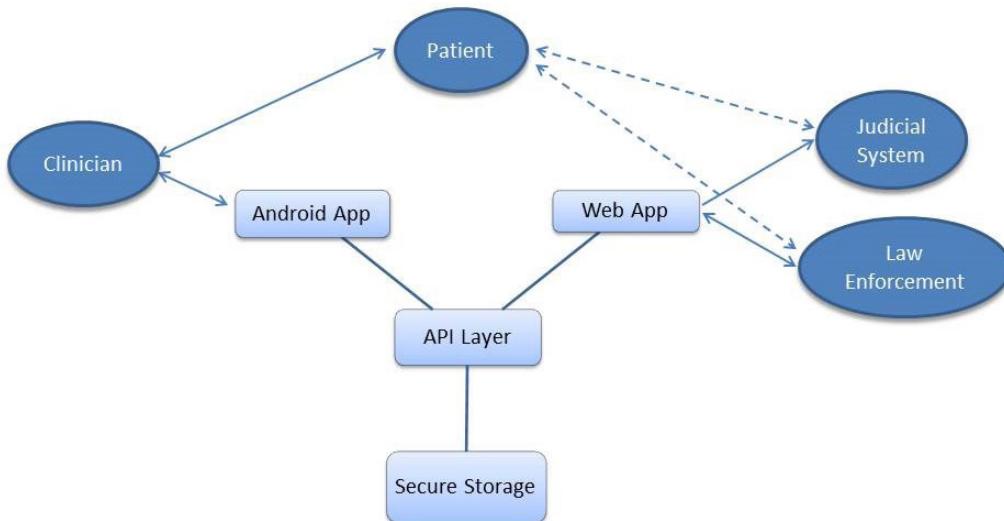
Figure 4. MediCapt information flow between mobile app and web app.

Given the intermittent and unreliable Wi-Fi connectivity in some remote areas of the DRC, we determined that offline functionality would be essential, and that the mobile app should be able to receive the forensic medical information, capture photographs, and then store this data until connectivity is established. Accordingly, we have chosen to use store and forward architecture that

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[16] The app was designed to accommodate lack of familiarity with digital interfaces by simplifying as much as possible the number of choices in the menu. To that end, we have attempted to minimize the number of possible interactions for the user toward the goal of keeping it accessible for those with low digital literacy. With regard to language, the app, as well as the back-end content management system (where forms are configured), is multilingual by design. The first two languages currently configured are French and English, but other languages are readily accommodated by adding language specific forms to the back end and language specific user interface elements to the app.

allows us to capture data and store it in an encrypted form on the hardware (smartphone or tablet), and then send that data to the server at a different time. An additional benefit of this architecture is that, if a connection is lost during transmission, the data that has already been transmitted need not be sent again, and, upon re-connection, the remainder of the data will be sent. These features are essential, given the limited bandwidth in the DRC.

MediCapt has also been designed to include the following additional features: (1) Camera: The basis of the camera feature on MediCapt is InformaCore – an open-source library for Android. InformaCore enhances the camera on the mobile phone by capturing and validating authenticity. In addition to using some of the core components of InformaCore and the camera on the mobile phones themselves, for security and confidentiality purposes, the photos are stored within the local database on the app and not within the photo gallery of the phone. (2) Writable Pictogram: The pictogram is one of the clinicians' preferred features of the standard form. We sought to replicate that in MediCapt, allowing clinicians to use digital pictograms. In this feature, health care workers have the ability to add markers to the pictogram (to identify where injuries or forensic information are found on the body). MediCapt then prompts clinicians to take a forensic photograph of the noted area, and they can add notes as well. (3) Authenticity: Establishing authenticity of the patient file is a key benefit of using technology for sexual violence documentation. The MediCapt mobile app currently captures crucial metadata including latitude, longitude, environmental sensors, time and date stamps, and other identifying information that will help establish the veracity of the record. (4) Encryption: Maintaining the security of the information inputted into MediCapt is crucial for the success of this application. All data stored in the local database is encrypted upon creation, and all photos taken are stored in encrypted format inside the database, not as separate files. No data is stored in an unencrypted state on the device.

Finally, we also hoped from the outset that MediCapt could be used for improved future monitoring surveillance and early detection of mass violence. Our design therefore allows for individual files to be de-identified to protect the privacy of the survivor, and for critical fields to be aggregated and analyzed. With this function, for example, it may be possible to look at geographic parameters, timelines, and clusters of crimes, and cross-reference this information with open-source intelligence concerning military and militia activity within a specific timeframe or location. This analysis would allow investigators and prosecutors to map trends or patterns of locations attacked, types of victims targeted, injuries sustained, weapons used, languages spoken, and military or militia uniforms worn by perpetrators. Not only will this data assist in documenting the prevalence of sexual violence and the widespread or systematic nature of attacks, it will also provide the factual and legal criteria necessary for reframing a series of seemingly-isolated, individual attacks as mass crimes or crimes against humanity. These indicators may also serve as compelling evidence to hold military or civilian leaders to account for the crimes committed by their subordinates under command responsibility – a key doctrine for war crimes prosecutions.

Partnering with Clinical End Users for "Co-Design"
As a general rule, any technology should be designed with the end users in mind, and, if possible, in close collaboration with them. We adopted a collaborative or co-design approach in which we made efforts to involve our clinical end users in all phases of the design: the initial needs assessment, the prototyping and refinement of the app, and the exploration of its usability in their clinical workflow and patient care routine. This was pursued over the course of three years, during which we engaged our clinician partners in multiple rounds of refining the app through training workshops, focus groups, and surveys. In each round, we solicited input on design, clinical matters, and usability, all related to the clinicians' unique practice settings and existing infrastructures, and upgraded and updated each subsequent version based on their feedback.

This ongoing dialogue helped uncover various systemic, institutional, infrastructural, and even cultural barriers to a successful implementation of MediCapt. Going paperless emerged as a key issue. In eastern DRC, most health care settings do not employ an electronic health record system (EHR), and the idea of capturing and recording health care data electronically is a foreign one not only to the clinician, but also to the patient. There is a cultural expectation that any documentation generated during clinical visits be produced as a hard copy – in the form of a hand-written "carnet",

visit summary, or, in these cases, a sexual violence document. Patients expect to receive a hard copy to take to the police, hospitals need them for storage in paper charts, and administrators are often accustomed to providing a literal stamp of approval. Rather than disregard these cultural norms, we decided to create a printing feature as a work-around. However, this adaptation required additional modifications from the technology team, and it pushed back our expected field launch. Moreover, it presented additional hurdles in the form of material restrictions (e.g. lack of available printers and ink, copiers, and supplies).[17]

Additional barriers to a successful implementation of the app fell into three groups: (1) infrastructural; (2) systemic and organizational; and (3) personal behavior. Infrastructural problems included frequent periods with no electricity, and a lack of consistent Wi-Fi availability.[18] End users overall lacked clarity regarding digital data storage and they did not uniformly understand the concept of cloud storage. From the organizational perspective, questions were raised about institutional buy-in and support at the hospital level as well as at the district, regional, and national levels. Finally, human factors played a substantial role in the perceived likelihood of adoption of this new technology. These behavioral issues included a wide range in technological literacy, a range in the clinicians' degree of openness to changes in their work flow, a range in their willingness to invest time in learning to use this app, and a range in their abilities to negotiate peer resentment and perceived jealousy after receiving advanced devices and monetary incentives to participate in our program.

Additionally, as mentioned above, our potential users for this technology extend beyond medical clinicians to include professionals from the law enforcement and judicial sectors. Among this larger group of end users, there is also a range of skill and comfort levels regarding technology adoption, digital literacy, and electronic data collection. Future phases of the app's development will therefore more closely involve these data receivers and processors (law enforcement and legal practitioners).

The field-testing is still in its early stages. To date, we have tested the usability of the app in simulated conditions with about 12 clinicians from five health facilities in North and South Kivu. We expect these clinicians to begin piloting the app with patients later this year.

Monitoring and Evaluation
Our team is designing a robust longitudinal monitoring and evaluation process.[19] Ideally, MediCapt will enable us to look at each individual case – putting the survivor at the center – and ensure that all necessary medical data (history, physical findings, photographs of injuries, lab results) are collected and stored in one place, organized in a standardized and consistent fashion, and as comprehensively as possible in order to facilitate a successful legal process. Digitization and time stamping should further improve the capacity to track cases from initiation to conclusion and to identify delays in the submission and processing of an individual case. These features will ultimately bring greater accountability and transparency to a process that has been sorely lacking in efficiency, completeness, and timeliness.

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[17] Once clinicians input the information into the MediCapt mobile app, they will then have the ability to print directly from their mobile device (via Bluetooth technology) to allow for multiple copies of the standard form. These paper copies of the form will then be distributed to the survivors themselves, law enforcement, and prosecutors. The original record will still be saved digitally (in the cloud), ensuring the original forensic medical information will be preserved in the event that the paper copies are lost, stolen, or misfiled. The original forensic medical record would then be produced in court with chain of custody intact, if needed.

[18] The app is designed to function when off the electric grid by accommodating offline access, and battery powered printers. If the device and printer are charged, the app can function off-grid for hours, and when back at the office or clinic, the app syncs with the back-end server once network connectivity has been established. Any commodity battery that has USB charging can be used to extend the life of the tablet and printer, including solar charged batteries, however at the time of this writing, we have not specifically tested this configuration.

[19] We are still in the early stages of field-testing the usability and feasibility of the app in the clinical setting. We have not yet begun to compare data collection with the app against the process of using the paper form alone to determine if there are differences in accuracy, completeness, and ease of use, among other possible outcomes. We plan to evaluate these issues in the near future, via a "standard practice" control group. Similarly, we are developing an assessment instrument to gauge the acceptability of the app from the survivor perspective.
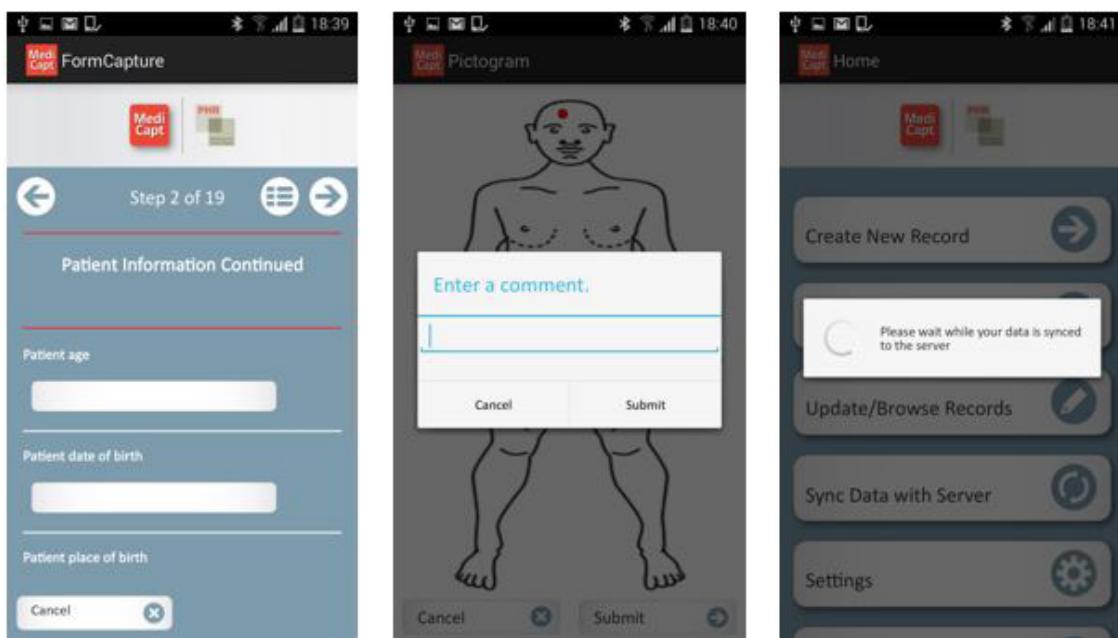
Figure 5. Images of MediCapt screens.

MediCapt will also facilitate the ability to look at de-identified aggregate data and gain important insights about process (how many cases are seen per week, per month, per location, per clinician, etc.), and also about outcomes (the number of cases tried, those ending in a conviction, etc.). Important epidemiological information could be extracted from the dashboard, for example, regarding age and gender distribution of cases, types of assault, injury patterns and weapons used, geographic locations. This population-level information and data mapping will be critical in revealing prevalence and patterns of violence and uncovering systematic atrocities and crimes against humanity. All of this said, we anticipate it may require years of study before we can determine the full impact of MediCapt on medical, legal, and human rights outcomes.

The Risks and Responsibilities of Human Rights NGOs Leveraging Technology in Pursuit of Their Missions
At present, there are roughly three categories of technology tools being used in human rights communities: those created to assist activists in gathering information and documentation to expose or highlight violations; those that collect, analyze, and preserve evidence that could be admissible in a court; and, finally, those that aim to secure or enhance communication among activists or even provide protection (e.g. Amnesty International's panic button app). All three categories of tools have serious risks associated with them, and require that the human rights and technology communities come together to identify best practices to address these risks.

MediCapt, which falls into the second category, has been particularly challenging as it requires that the user or manager of MediCapt be able to produce credible metadata that can be used by a magistrate, judge, or other person to assess the integrity of the evidence. There is a very real risk that hackers may seek weaknesses in the architecture of the app, and we have therefore focused on safeguarding the security of the app itself. Any attack might conceivably place the user and many others at risk. We have thus needed to address the question of what constitutes a fair warning to potential users.

Many related issues also need to be further explored. No information or evidence will be collected from a person without their informed consent, including their consent for how the information or evidence will be used. But once consent has been given, who then owns the information and evidence that is being collected? The scope of some of this technology also goes far

beyond personal information or evidence from a person's body or memory. With so many activists pursuing justice, the question of who owns the evidence is paramount. Unless these issues are clarified, we may witness the privatization of evidence collection, with attendant threats to chain of custody as well as accusations of bias.

Another crucial issue is how to assess the lifecycle of technology and when such technology needs to be retired because it can no longer be safeguarded. As organizations and funders direct significant resources toward the development of both new hardware and software, users must be made aware of any changes to older legacy products and security safeguards.

Situating MediCapt in Context

In addressing these questions regarding the development of MediCapt, PHR has tried to develop the most functional app possible with all relevant safeguards, knowing that information and evidence collected in DRC is too often lost, destroyed, tampered with, or languishes in a hospital because the police were unable to collect the information. PHR aimed to be absolutely mindful of the security issues involved in the development of MediCapt but not let the perfect be the enemy of the good – especially given the current state of impunity for crimes of sexual violence. What we have learned along the way is to see the development and use of the app as a process. We will need to ensure that changing contexts – political, technological, and judiciary – may at times impact how the app functions. It is our responsibility to ensure that PHR and our partners in DRC can be responsive to these developments in a timely manner.

Conclusion

MediCapt is being designed and developed with the hope that it will eventually be used by clinicians around the world. Currently, PHR and our partners in DRC are continuing to refine this technology while also attempting to increase the comfort levels of our end users with MediCapt's interface. After completing competency trainings – which will seek to model actual clinical settings with standardized (simulated) patients – we will partner with pilot hospitals to integrate this app into their standard operating procedures for patient care in cases of sexual violence. And, as national authorities adopt and roll out the standard medical form across the country, PHR will work with health, law enforcement, and legal officials to train and integrate MediCapt into that process as well. Along the way, we will be documenting both setbacks and successes and we will continue to learn from and collaborate with our many partners – the end users, technologists, citizen activists, clinicians and ethicists, human rights advocates, and funders.

We have been especially grateful to our DRC-based colleagues, who have placed their trust in us and provided vital input at every step in this process. With their help, we have remained focused on directing this new technology toward the larger mission of transforming justice systems. Ultimately, if survivors of sexual violence and other human rights violations can succeed in holding perpetrators accountable through the court systems in their communities because they are equipped with more compelling, comprehensive forensic evidence to support their allegations, we will have taken a major step forward.

Bibliography

"70ᵗʰ Anniversary of the Verdicts of the International Military Tribunal, 01 October 2016*." International Nuremberg Principles Academy*. Accessed November 22, 2016. http://www. nurembergacademy.org/events/70th-anniversary-of-the-verdicts-of-the-international-military-tribunal-01-october-2016/.

"AKAYESU, Jean Paul (ICTR-96-4)." *United Nations Mechanism for International Criminal Tribunals*. Accessed November 22, 2016. http://unictr.unmict.org/en/cases/ictr-96-4.

"Annex 10: Sample sexual assault medical certificate." *International Protocol on the Documentation and Investigation of Sexual Violence in Conflict*. London: Foreign & Commonwealth Office, 2014. Accessed November 22, 2016. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/319054/PSVI_protocol_web.pdf.

Askin, Kelly D. "Prosecuting Wartime Rape and Other Gender-Related Crimes under International Law: Extraordinary Advances, Enduring Obstacles." *Berkeley Journal of International Law* 21, no. 2 (2003): 288-349.

"Case Information Sheet: The Prosecutor v. Jean-Pierre Bemba Gombo." *International Criminal Court*. Accessed November 22, 2016. https://www.icc-cpi.int/car/bemba/Documents/BembaEng.pdf.

Kilonzo, Nduku, Njoki Ndung'u, Nerida Nthamburi, Caroline Ajema, Miriam Taegtmeyer, Sally Theobald, and Rachel Tolhurst. "Sexual Violence Legislation in sub-Saharan Africa: The Need for Strengthened Medico-legal Linkages." *Reproductive Health Matters* 17, no. 34 (2009): 10-19.

"PHR wins 2013 Tech Challenge for Atrocity Prevention with Mobile App." *Physicians for Human Rights*. February 13, 2013. Accessed November 22, 2016. http://physiciansforhumanrights.org/press/press-releases/phr-wins-2013-tech-challenge-for-atrocity-prevention-with-mobile-app.html.

"Program on Sexual Violence in Conflict Zones." *Physicians for Human Rights*. Accessed November 22, 2016. http://physiciansforhumanrights.org/issues/rape-in-war/program-on-sexual-violence-in-conflict-zones.html.

"Situations under investigation." *International Criminal Court*. Accessed November 22, 2016. https://www.icc-cpi.int/pages/situations.aspx.

"Tackling Sexual Violence Must Include Prevention, Ending Impunity – UN official." *UN News Centre*. Accessed November 22, 2016. http://www.un.org/apps/news/story.asp?NewsID=34502#.WDC1A7IrKUk.

Tuckwood, Christopher. "The State of the Field: Technology for Atrocity Response." *Genocide Studies and Prevention: An International Journal* 8, no. 3 (2014): 81-88.

Trial of the Major War Criminals Before the International Military Tribunal: Nuremberg 14 November 1945 – 1 October 1946. Nuremberg: International Military Tribunal, 1947. Accessed November 22, 2016. https://www.loc.gov/rr/frd/Military_Law/pdf/NT_Vol-I.pdf.

Sensors Everywhere: Using Satellites and Mobile Phones to Reduce Information Uncertainty in Human Rights Crisis Research

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Introduction

Human rights researchers pin much hope on the use of information and communication technologies (ICTs) to strengthen the quality of their research. Increased trainings,[1] funding,[2] and hiring of specialized staff are all signs of the high expectations that technology will positively impact, if not provide an easy fix, to current human rights problems. However, in order to realize the actual potential of ICTs, it is important to conceptualize clearer their added value, and to go beyond wishful assumptions: A single app or interactive map will hardly catch a war criminal,[3] and ICTs are no panacea for atrocity detection or response.

ICTs by themselves do not deliver complete truth—let alone provide a shortcut to justice—as they largely capture a limited scope of information. Instead, they add very specific details and insights to research. Their significant added value in mass atrocities research thus arises from their ability to reduce information uncertainty. A 2015 UN report on ICTs and human rights, specifically in regards to the right to life, pointedly captures the challenge ICTs can help to address:

> (…) the work relating to protecting this right [to life] often concerns *disputed facts* or even the *availability of facts*. Individuals commit violations of the right to life not because they believe it is justifiable, but because they believe they will not be called on to justify themselves. That places a premium on fact-finding and evidence.[4]

Uncertainty can best be described as the inability to assign probabilities. Information uncertainty in a human rights documentation context, as stated in the quote above, encompasses two related challenges: information scarcity and the unknown quality of available information. While these are not new challenges in human rights research, the latter is exacerbated in the digital age.

This article describes how ICTs reduce information uncertainty during human rights crises, which, by definition, are characterized by a high degree of uncertainty and the commission of atrocity crimes. The author will showcase how ICTs are integrated into human rights crisis research to detect and document mass atrocities, i.e. crimes under international law such as war crimes, crimes against humanity, or genocide. It is written from a practitioner's perspective, drawing from the work of a global human rights watchdog, thus avoiding the trap of inferring conclusions from a single region or a specific tool. Having said that, since ICTs describe a wide range of technologies that enable the electronic collection, transmission, presentation or storage of data, this article focuses on two specific types of ICTs that are used to address information uncertainty: geospatial and mobile phone technologies.

Crisis, Uncertainty and the "Lemon Problem"

Information uncertainty is especially high during times of crisis. Common traits of human rights crises are condensed in the following table:

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[1] See, for example, "Remote Sensing for Humanitarian Programs Workshops," Harvard Humanitarian Initiative, accessed July 20, 2016, http://hhi.harvard.edu/education/workshops/remote-sensing.

[2] See, for example, "The Tech Challenge for Atrocity Prevention," Humanity United, accessed July 20, 2016, http://thetechchallenge.org/blog/.

[3] Owen Bowcott, "eyeWitness to Atrocities: The App Aimed at Bringing War Criminals to Justice," *The Guardian*, June 7, 2015, accessed July 25, 2016, https://www.theguardian.com/technology/2015/jun/08/eyewitness-to-atrocities-the-app-aimed-at-bringing-war-criminals-to-justice; Christoph Koettl, "#DemandJustice: The Website War Criminals Don't Want You To Share," July 19, 2012, accessed July 25, 2016, http://blog.amnestyusa.org/africa/demandjustice-the-website-war-criminals-dont-want-you-to-share/.

[4] United Nations, *Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Christof Heyns: Use of information and communications technologies to secure the right to life*, April 24, 2015 (A/HRC/29/37), 5-6. Highlighting by author.

Issue	Description	Examples & Human Rights Concerns
Lack of physical access	This presents a major challenge for a profession that is centered on field based fact-finding and interviewing witnesses. Modern communication technologies allow for the continuation of a testimony-centered approach, as witnesses can be interviewed remotely. However, direct access is still considered the gold standard in human rights research, which is challenged when confronted with major human rights crises that make access almost impossible.	North Korea • Crimes against humanity Darfur • War crimes • Crimes against humanity • Genocide
Information scarcity	Situations that are impacted by armed conflict and other factors that lead to a sharp decline in human security are often characterized by a lack of information, which make human rights fact-finding difficult or impossible. Perpetrators have some control over information flows by limiting freedom of expression through censorship, surveillance or the outright destruction of telecommunications infrastructure.	Boko Haram affected areas • War crimes • Crimes against humanity
Information overload	While in exact contrast to the previous point, human rights crises can also see a challenge of too much information, leading to problems around information triage and quality control. Considering the increase in cell-phone and internet penetration globally, the information ecosystem as seen in the Syrian conflict is likely to become the norm during future human rights crises. A report on a 2012 workshop on using scientific evidence at the International Criminal Report labeled this challenge as the "coming storm" of potential evidence[1].	Syria • Crimes against humanity • War crimes

Table 1. Common traits of human rights crises.

A cross-cutting attribute across these issues is the presence of serious, often widespread, human rights violations. Crisis situations are prone to the commission of atrocity crimes, resulting from perpetrator expectations that their crimes will go unnoticed or can be easily dismissed or minimized[5] in an environment of high information uncertainty.

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[5] Scott Edwards, "Fieldwork from the Sky: Remote Data Collection from War Zones," International Sudan Studies Association 2009 annual conference in Pretoria (2009), South Africa, 1-3.

The Lemon Problem

The combination of the characteristics listed in Table 1 create what can be referred to as the "lemon problem"—the risk of using misinformation that can discredit an entire research project. While this is an old challenge, it has been exacerbated in the digital age, where the spread of misinformation is made easier by digital social media networks.[6]

The lemon analogy is borrowed from economics. The term lemon is used in the United States to describe a defective car, and was used by Nobel Prize winning economist George Akerlof to analyze quality uncertainty, using the example of a car buyer who faces the risk of buying a bad car[7] (whereas a used-car dealer represents an institution that reduces quality uncertainty). International theorist Robert Keohane used this analysis to explain the creation of institutions in international affairs.[8]

Both of these concepts prove useful in assessing the value of ICTs for human rights crisis research. In this context, a lemon describes a piece of misinformation—or bad information—that creates the danger of discrediting the accuracy of research. Accuracy has always been at the core of human rights fact-finding, as standard works on this topic emphasize:

> For NGOs, the stakes in surviving (…) scrutiny could not be higher. The credibility of their fact-finding is their stock-in-trade. Broadly stated, the chief objective of human rights NGOs is to promote compliance with international human rights standards. (…) Fact-finding lies at the heart of these efforts, and the fact-finding 'works' when it convinces the target audience that the published allegations are well founded.[9]

The opportunities for human rights documentation stemming from the omnipresence of digital sensors are undeniable. Investigations by both intergovernmental[10] and non-governmental[11] human rights monitoring groups increasingly rely on video or photographic evidence. However, the rise of ICTs and citizen media leads to an exponentially growing lemon problem. With lower

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[6] For a recent study on the online misinformation ecosystem see Craig Silverman, "Lies, Damn Lies, and Viral Content. How news websites spread (and debunk) online rumors, unverified claims, and misinformation," Tow Center for Digital Journalism, February 10, 2015. As the author states on page 35: "There is a growing online misinformation ecosystem that churns out false information at an increasing pace. Its success often depends on two factors: the ability to cause sharing cascades on social networks and the ability to get online media to assist in the propagation, thereby adding a layer of credibility that further increases traffic and sharing."

[7] George Akerlof, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," *The Quarterly Journal of Economics* 84, 3 (Aug 1970), 488-500.

[8] Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton: Princeton University Press, 1984). See also a 2004 interview with Keohane: "Akerlof showed how in an economic market, the used-car market, there could be market failure. That is, the lack of institutions could create a situation where prices didn't clear. A buyer was not able to buy a car from a seller for a mutually agreed price which would have been good for them both, because there were no institutions, there was nobody to make credible promises unless you have this institution of the used-car dealer. I saw immediately that the used-car dealer was very much like the international institution, which would increase the credibility, the promises, reduce uncertainty, and reduce the cost of transactions, and, therefore, this was the key to thinking about the role of international institutions." "Robert Keohane Interview: Conversations with History", Institute of International Studies, University of California Berkeley, March 9, 2004, accessed July 27, 2016, http://globetrotter.berkeley.edu/people4/Keohane/keohane-con2.html.

[9] Diane Orentlicher, "Bearing Witness: The Art and Science of Human Rights Fact-finding," *Harvard Human Rights Journal* 3 (1990), 92-93.

[10] On the use of information and communications technologies by human rights mechanisms, see United Nations, "Report of the Special Rapporteur", 17-19. For a specific example, see also: Office of the UN High Commissioner for Human Rights, United Nations, *Technical Note prepared by the Special Rapporteur on extrajudicial, summary or arbitrary executions, Mr. Philip Alston, in relation to the authenticity of the "Channel 4 videotape,"* January 7, 2010, accessed July 27, 2016, http://groundviews.org/wp-content/uploads/2011/05/un_technical_note.pdf?x98647.

[11] See, for example, Human Rights Watch, "Sri Lanka: Execution Video Shows Need for International Inquiry," August 26, 2009, accessed July 25, 2016, http://www.hrw.org/news/2009/08/26/sri-lanka-execution-video-shows-need-international-inquiry; Amnesty International, "'Shocking' Video Shows Armed Group Carrying Out Summary Killings of Men in Syria's Idlib Province, Says Amnesty International," November 1, 2012, accessed July 25, 2016, http://www.amnestyusa.org/news/press-releases/shocking-video-shows-armed-group-carrying-out-summary-killings-of-men-in-syria-s-idlib-province-says.

barriers to self-publishing and re-sharing digital content instantly and globally, the spread of misinformation increases. The lack of institutions that provide quality control—such as traditional media outlets before the advent of digital social networks—contribute to this challenge, which only recently came under scrutiny through the fake news debate following the 2016 U.S. presidential elections. The human rights profession is not immune to this problem, and examples of human rights related lemons are plentiful:

- In a since removed tweet, Human Rights Watch Executive Director Ken Roth used a drone video from the destruction in Gaza in the aftermath of the 2014 conflict to describe the impact of barrel bombs on Aleppo.
- In the first half of 2016, images from the conflict in north-east Nigeria were repeatedly used to support claims of mass atrocities in other countries. The same images were then used in the context of extrajudicial executions in Burundi, and the crisis in South Sudan starting in June 2016.[12]
- A video showing extreme violence, likely stemming from Kenya, is repeatedly circulated online. The highly graphic video was used to describe post-election violence in Cote D'Ivoire,[13] in addition to describing violations in the context of South Sudan and Burma.
- The BBC used an image from Iraq in 2003 for a story on the Houla massacre in Syria in May 2012.[14]
- In the last week of May 2016, a video of a killing was posted, reportedly related to the Fallujah Offensive that started in late May.[15] However, a second video[16] of the same incident was already shared in mid-April 2016. The incident was thus old and not related to this specific military operation.

This list is a non-comprehensive sample. Global human rights groups are faced with such digital misinformation on a weekly basis. There is another cost of the lemon problem, in addition to the high risk of inaccuracy. It forces human rights researchers to treat every piece of digital content with extreme caution, and creates high opportunity costs to review and assess a video or image. There is no silver bullet to detect lemons, and the verification process of a single piece of digital content can easily take up an entire day.[17] Consequently, a lot of content is either ignored (the triage problem) or added on only as an afterthought, once enough traditional research is gathered.

Corporate institutions emerged over the last years to fill the void in quality control, the most prominent being Storyful, the self-described world's first "news agency (...) for the social media age."[18] However, with its focus on viral and newsworthy content and its cost-prohibitive subscription, this is not a suitable option for human rights groups, thus leaving it to individual researchers themselves to verify information. Both large news organizations and human rights organizations started to set up internal institutions to provide quality control, such as the BBC's

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[12] Andrea Spada, Twitter Post, March 1, 2016, 6:43a.m, https://twitter.com/Baldoriano/status/704633182063370240. [Warning: Graphic Content]

[13] Julien Pain, "Beware of Internet Misinformation: Hoax Footage of Atrocities in Ivory Coast," France 24, July 4, 2011, accessed July 27, 2016, http://observers.france24.com/en/20110407-beware-internet-misinformation-hoax-footage-atrocities-ivory-coast.

[14] Chris Hamilton, "Houla Massacre Picture Mistake," BBC, May 29 2012, accessed July 25, 2016, http://www.bbc.co.uk/blogs/theeditors/2012/05/houla_massacre_picture_mistake.html.

[15] Video originally posted on Twitter https://twitter.com/irakiRevolution/status/736240104155586561. Account has been deleted.

[16] Twitter Post, April 22, 2016, 10:27p.m. https://twitter.com/D_yassir_1/status/723699727146057728. [Warning: Graphic Content]

[17] Christoph Koettl, "Citizen Media Research and Verification: An Analytical Framework for Human Rights Practitioners," (Human Rights in the Digital Age: CGHR Practitioner Paper 1, Cambridge, UK: University of Cambridge Centre of Governance and Human Rights), January 2016, accessed July 27, 2016, http://www.cghr.polis.cam.ac.uk/publications/cghr-practitioner-papers-series/paper-1.

[18] Mark Little, "The Human Algorithm," May 20, 2011, accessed July 27, 2016, http://blog.storyful.com/2011/05/20/the-human-algorithm-2.

user-generated content hub,[19] or Amnesty International's Tactical Research and Analysis Team.[20] An interesting trend to follow will be the creation of collaborative and volunteer networks to address the lemon problem, such as Amnesty International's Digital Verification Corps,[21] which is tasked "to find content in social media streams and to verify videos and photographs to help (…) researchers monitor and report on human rights violations."[22] Journalism schools started to offer graduate program in so-called Social Journalism that include coursework on verification,[23] and the human rights field might follow suit.

A technical solution to address the lemon problem is documentation apps that capture relevant metadata and chain of custody records. These have the potential to be impactful on specific issues and when working with dedicated networks—as Karen Naimer, Widney Brown, and Ranit Mishori write in their article published in this special issue of *Genocide Studies and Prevention*—but are less likely to be adapted by large numbers of people or utilized by bystanders.[24]

Applications in Human Rights Crisis Research
ICTs can help address the challenges faced during crises as listed in Table 1. Geospatial technologies and camera enabled cell phones have proven the most useful in human rights crisis research, as they can be used to circumvent access restrictions to collect and transfer potential evidence.

Geospatial technologies, most notably satellite imagery, are some of the most impactful tools to circumvent access restrictions and address the information scarcity problem. As one of the case studies below will detail, satellite imagery enables human rights fact-finding in inaccessible areas such as North Korea. While satellite images are limited regarding the human rights issues they can document, this technology has proven successful to document a range of violations, including violations of International Humanitarian Law (IHL) and Economic, Social and Cultural Rights (ESCR). It is important to note that space-based remote sensing allows for the detection of both spatial and temporal trends. Vast archives of satellite imagery give researchers access to historical records, which can be highly relevant in the documentation of atrocity crimes. Relevant features to assess include: civilian, military or humanitarian infrastructure, and if and how they have changed over time.[25] Further, satellite sensors collect data across the infrared, visible, and ultraviolet wavelength of the electromagnetic spectrum. This has ramifications for human rights researchers, as it allows going beyond simple visual analysis (e.g. housing demolitions or other infrastructure demolitions) to more advanced analysis, such as detecting petrochemical releases[26] or thermal anomalies.[27] Remote sensing technologies will gain in importance over the coming years, as more commercial actors enter the sub-meter resolution market, including micro-satellite companies, and entry barriers to using unmanned aerial vehicles (UAVs) get lower.

[19] Sally Taft, "How Did You Help Us Change the Way We Report the News?" December 27, 2014, accessed July 28, 2016, http://www.bbc.com/news/world-30421631.

[20] See the informal blog of the team, "Lemming Cliff - View from the Event Horizon," accessed March 1, 2017, https://medium.com/lemming-cliff.

[21] PBS Newshour, "A New Generation of Human Rights Investigators Turns to High-tech Methods," February 13, 2017, accessed February 27, 2017, https://www.youtube.com/watch?v=dDLtL8aWRAQ.

[22] Sam Dubberley, "New Data and the Importance of Collaboration," July 18, 2016, accessed July 28, 2016, https://citizenevidence.org/2016/07/18/new-data-and-the-importance-of-collaboration/.

[23] The City University of New York, Graduate School of Journalism, accessed July 25, 2016, https://www.journalism.cuny.edu/academics/social-journalism/curriculum-and-courses/.

[24] Karen Naimer, Widney Brown and Ranit Mishori, "*MediCapt* in the Democratic Republic of the Congo: The Design, Development, and Deployment of Mobile Technology to Document Forensic Evidence of Sexual Violence," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 25-35.

[25] See, in detail, Nathaniel A. Raymond, Brittany L. Card, and Isaac L. Baker, "A New Forensics: Developing Standard Remote Sensing Methodologies to Detect and Document Mass Atrocities," *Genocide Studies and Prevention: An International Journal*, Volume 8, Issue 3, (2013) Article 6.

[26] American Association for the Advancement of Science, "Documentation of Petrochemical Release: Bodo, Nigeria," accessed July 26, 2016, http://www.aaas.org/page/documentation-petrochemical-release-bodo-nigeria.

[27] Lars Bromley, "Relating Violence to MODIS Fire Detections in Darfur, Sudan," *International Journal of Remote Sensing*, 31, 9 (2010), 2277-2202.

Mobile phone technology has implications for gaining access to information and has led to an explosion in open source information that human rights researchers can exploit. Open source information includes publically accessible information such as news articles, academic articles, statistics, and, increasingly, audiovisual content or reporting shared through online social networks. This rapid growth of information is fed by smart phone technology and enabled by digital networks. It is important to note that the audiovisual content by itself is nothing new. Prominent human rights-relevant examples from the pre-digital age are the Rodney King video or the Zoran Petrovic video of Srebrenica.[28] Camera enabled cell phones, the digitization of content, and the ongoing increase in internet penetration are the game changers. The result is that information is distributed less through official media outlets, such as TV broadcasts and newspapers, and more through online social networks in real-time. Thus, more than ever, reporting on human rights abuses moves beyond the control of governments. The implications for researchers are profound, similar to the advent of commercial remote sensing.

The following case studies and examples provide insights on how these technologies positively impact human rights fact-finding.

Satellite Imagery

> The unspeakable atrocities that are being committed against inmates of the kwanliso political prison camps resemble the horrors of camps that totalitarian States established during the twentieth century. The institutions and officials involved are not held accountable. Impunity reigns.[29]

The value of ICTs to address lack of information is most powerfully demonstrated in the use of satellite imagery to document political prison camps in North Korea. Despite severe constraints, the UN Commission of Inquiry on North Korea was able to document serious violations of international human rights law on a systematic level that suggest that North Korean authorities are committing crimes against humanity.[30] ICTs played a crucial role in contributing to the establishment of the Commission and the collection of rare evidence used by the Commission.

North Korea is one of the world's most reclusive and inaccessible countries. Human rights researchers face the following problems when attempting to document the system of political prison camps and associated human rights violations:

- Human rights researchers do not have direct access to the country.
- No other independent observers, such as international journalists or the International Committee of the Red Cross (ICRC),[31] have access to the political prison camps
- Due to heavy restrictions on freedom of expression, there is no online or social media content available of the camps. In fact, there appears to be only a single piece of audiovisual content available of the political camps, which is a video by Japanese Fuji TV, reportedly of Yodok camp.[32]

Human rights researchers thus have only two options to research camp conditions –by interviewing the few people who were in one of the camps and fled the country, or by using remote

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[28] "Rodney King beating video, full length footage," YouTube video, 8:08, March 3, 1991, accessed July 25, 2016, https://www.youtube.com/watch?v=sb1WywIpUtY; "Zoran Petrovic video," YouTube video, 1:16, July 14, 1995, accessed July 25, 2016, https://www.youtube.com/watch?v=344e_D-Vc7g.

[29] Office of the High Commissioner for Human Rights, "North Korea: UN Commission documents wide-ranging and ongoing crimes against humanity, urges referral to ICC," February 7, 2014, accessed July 27, 2016, http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=14255&LangID=E#sthash.ukBW9bLP.dpuf.

[30] Ibid.

[31] While the ICRC has a small presence in Pyongyang, it does not appear to have access to any political prison camps. See ICRC, "The ICRC in the Democratic People's Republic of Korea," accessed July 27, 2016, https://www.icrc.org/en/document/dprk-icrc-activities-leaflet.

[32] Reuters, Video Shows Harsh Life in N. Korean Camp - Japan TV, February 27, 2004.

sensing. Detention facilities lend themselves very well for remote observation, due to the fact that the detention infrastructure is easy to detect and assess from afar. The rationale of using remote sensing came from addressing some of the following uncertainties:

- The very existence of the camps: North Korean officials deny the existence of political prison camps. While denial is a standard strategy of perpetrators,[33] in this case it is especially difficult to counter authorities' narrative due to an almost complete lack of information about the camps. The dependence on an extremely limited number of eyewitness becomes even more challenging when testimony appears to contain inaccuracies.[34]
- The number of camps: There was some dispute about the exact number of political prisons camps, due to reports of closures. Current reports estimate four active camps.
- The number of prisoners: It remains unclear how large the size of the prison population is, and current estimates list 80,000-120,000 people.[35]

In 2003, the US Committee on Human Rights North Korea (HRNK) published a seminal report on the camp system.[36] It was one of the first times a non-governmental organization deployed remote sensing for human rights documentation, providing visual evidence of a vast system of political prison camps. Amnesty International later used satellite to document the existence of the camps, as well as apparent changes to the camps' infrastructure. In 2013, during the run up to the vote at the UN Human Rights Council that established the Commission of Inquiry, Amnesty International released findings that suggest that authorities are expanding its detention infrastructure, by setting up a new security zone adjacent to Camp 14.[37] This determination was made by analyzing satellite imagery that showed the construction of fences and controlled access points, which limited the freedom of movement of people living within the newly created control zone.
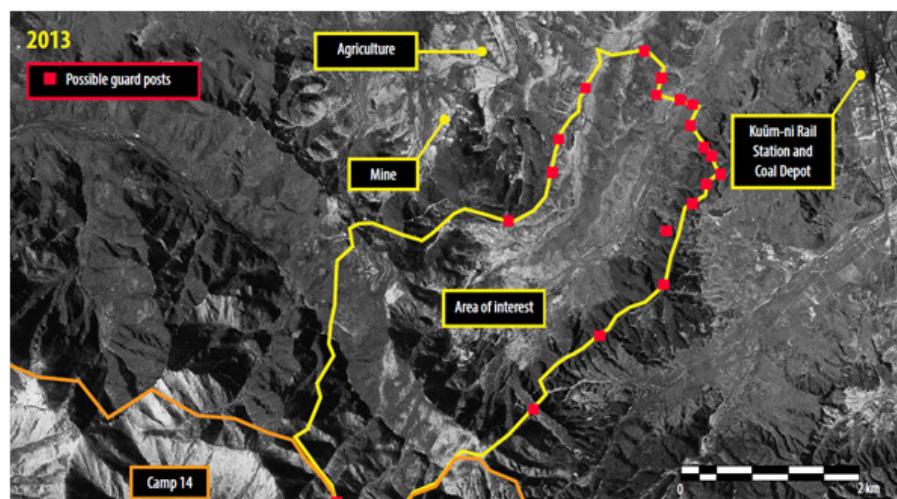
Figure 1. © DigitalGlobe. February 7, 2013.

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[33] Edwards, *Fieldwork from the Sky*, 1-3.

[34] Catherine E. Shoichet and Madison Park, "North Korean Prison Camp Survivor Admits Inaccuracies, author says," *CNN*, January 20, 2015, accessed July 25, 2016, http://www.cnn.com/2015/01/18/asia/north-korea-defector-changes-story/.

[35] Office of the High Commissioner for Human Rights, "North Korea: UN Commission Documents Wide-ranging and Ongoing Crimes Against Humanity."

[36] David Hawk, "The Hidden Gulag. Exposing North Korea's Prison Camps. Prisoners' Testimonies and Satellite Photographs," US Committee for Human Rights in North Korea, (2003), accessed July 27, 2016, https://www.hrnk.org/uploads/pdfs/NKHiddenGulag_DavidHawk.pdf.

[37] Amnesty International, "North Korea: New images show blurring of prison camps and villages," March 7, 2013, accessed July 27, 2016, https://www.amnesty.org/en/latest/news/2013/03/north-korea-new-images-show-blurring-prison-camps-and-villages/.

A few months later, new satellite imagery analysis documented ongoing investment in the camps' infrastructure, such as new housing blocks and an expansion of production facilities[38]—facts that were in direct contrast with ongoing North Korean authorities' claims that the political prison camps do not exist.

Satellite image analysis subsequently played a crucial role in the report of the Commission of Inquiry, the most comprehensive record of the human rights situation in North Korea. The value of the imagery analysis was highlighted by Chairman Michael Kirby during the presentation of the report, and a separate appendix with only satellite images is a further sign of the importance of this content to the investigation.[39]

In addition to documenting the very existence of the camps, thus establishing basic facts in, details were derived from the imagery that addressed some of the other uncertainties. For example, additional analysis from December 2013 determined the exact size of Camp 16, which with 560 km2 is three times the size of Washington, D.C.[40] Analysis by the HRNK and AllSource Analysis pointedly captures how satellite imagery reduces information uncertainties in regards to speculations on the creation of a new camp:

> The Ch'oma-bong Restricted Area is unique among North Korea's network of [political prison camps] in that its identification as a political detention facility is based upon the analysis of satellite imagery, comparison of its infrastructure characteristics with other [political prison camps] (e.g., security perimeter with entrance and guard positions, internal arrangement, etc.), and its physical association with Camp 14—they share a common security perimeter for approximately 3.1 kilometers.[41]

Looking forward, more could likely be done to gather additional human rights relevant facts: For example, occasionally satellites capture construction in progress, as was the case in a 2013 satellite image of Camp 16. Such insights into the size of houses and rooms could be used to make more precise estimations on the size of the prisoner populations. With the advent of satellite video,[42] the potential capture of active vehicles and checkpoints could be indications of ongoing activities in the camps, which might counteract claims to the contrary.

The use of satellite images in human rights documentation has become standard since HRNK's 2003 report and too many examples exist to list in this article. However, two additional examples are especially useful to demonstrate how satellite images are reducing information uncertainty.

In January 2015, both Amnesty International and Human Rights Watch released satellite images of one of the deadliest Boko Haram attacks to date. The high-resolution images of the burned down villages of Baga and Dora Baga in north-east Nigeria created massive media coverage, including front page coverage in the New York Times.[43] It is noteworthy that this coverage came approximately two weeks after the actual attack happened. Only minimal information was available of the attack and no journalists or human rights researchers could reach the affected area. This information challenge was exacerbated by a lack of local communications infrastructure.

In Sri Lanka in 2009, satellite imagery allowed researchers to gain remote access to the conflict affected area and provide human rights relevant documentation, such as the presence of impact craters or the emergence of gravesites in the so-called Civilian Safety Zone. Additionally,

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[38] Amnesty International, "New satellite images show scale of North Korea's repressive prison camps," December 5, 2013, accessed July 27, 2016, https://www.amnesty.org/en/latest/news/2013/12/new-satellite-images-show-scale-north-korea-s-repressive-prison-camps/.

[39] Office of the High Commissioner for Human Rights "Satellite images of currently existing political prison camps (kwanliso) in the Democratic People's Republic of Korea," January 28 2014, accessed July 27, 2014, http://www.ohchr.org/EN/HRBodies/HRC/CoIDPRK/Pages/ReportoftheCommissionofInquiryDPRK.aspx.

[40] Amnesty International, *New satellite images show scale of North Korea's repressive prison camps*.

[41] Joseph S. Bermudez Jr., Andy Dinville, and Mike Eley, "North Korea: Ch'oma-bong Restricted Area," March 17, 2016, accessed July 27, 2016, https://www.hrnk.org/uploads/pdfs/ASA_HRNK_Chmbg_201603_FINAL.pdf.

[42] "Terra Bella," Google, accessed March 17, 2017, https://terrabella.google.com/.

[43] "Frontpage January 16, 2015," New York Times, accessed July 20, 2016, http://www.nytimes.com/images/2015/01/16/nytfrontpage/scan.pdf.

Figure 2. © Digital Globe. May 26, 2013.
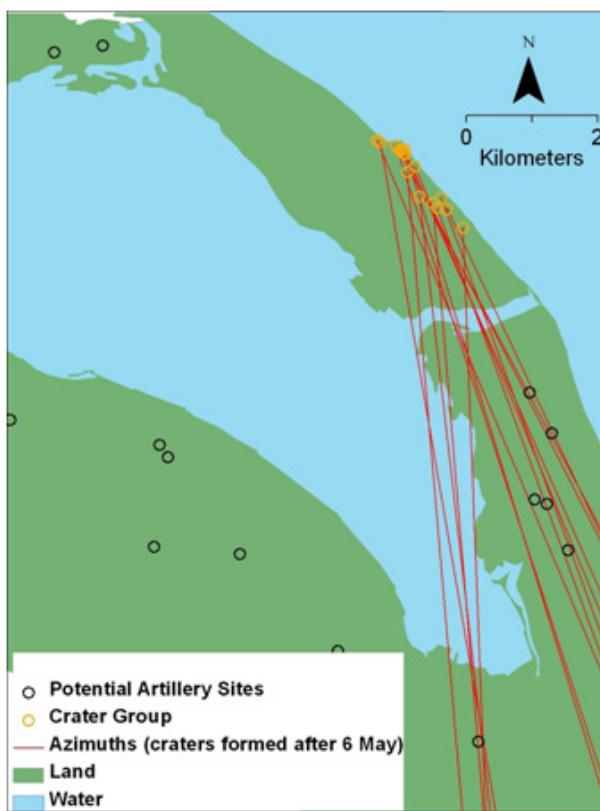
Figure 3. Graphic and analysis by AAAS, used with permission.

analysts at the American Association for the Advancement of Science (AAAS) were able to draw conclusions about the likely actor responsible for shelling, a fact that was repeatedly disputed by the parties to the conflict.[44] Analysis of craters, their ejecta patterns, and likely trajectories of

[44] See, for example, an incident in January 2009: "The spokesman for the Sri Lankan military, Brig. V. U. B. Nanayakkara, denied that government artillery had hit a United Nations compound, or a hospital compound. He said that either the relief and hospital officials had been pressed by the rebels to disseminate false information, or that the Tamil Tigers had been responsible for the shelling." Quoted in Somini Senguptajan, "U.N. Staff and Hospital Come Under Shelling

shells revealed that multiple impact craters stemmed from artillery positions of the Sri Lankan army.[45]

Mobile Technology
In addition to Syria, the armed conflict in north-east Nigeria is a prime example that demonstrates the impact camera enabled cell phones have on human rights fact-finding.

For two 2015 reports on violations by both Boko Haram and Nigerian security forces, Amnesty International analyzed close to 100 videos in addition to multiple photographs. The footage—stemming from eyewitnesses and likely perpetrators, captured mainly on cell phones and shared via messaging apps or on social media, —played a crucial role in the research. The videos predominantly showed human rights violations by Nigerian military forces and an associated civilian militia, the so-called Civilian Joint Task Force (CJTF). A noteworthy lemon that slipped into this collection was a video of a likely homicide from outside the conflicted affected area.[46]

The videos captured multiple incidents related to the ongoing conflict. A single date—March 14, 2014—stood out both in terms of the severity and scale of violations and the amount of available digital content. On that day, Boko Haram attacked Giwa military barracks in Maiduguri, freeing hundreds of detainees. In response to the attack and prison break, Nigerian security forces and CJTF killed more than 600 men and boys, most of them recaptured detainees.[47] Videographic evidence played a leading role in the following investigation. Footage included a Nigerian soldier executing an unarmed person in broad daylight who was lying on the ground. Two other videos showed how security forces and CJTF forced captured young male adults to dig graves before executing them by cutting their throats. (The same video showed up with claims that it originates in the Central African Republic).[48] While the location of this incident could not be independently verified from the footage alone, Amnesty International researchers were able to receive the original video files. This allowed analysts to confirm the incident date by reviewing the intact metadata of the files (which is often not possible since the metadata is normally altered or removed when files are shared through social media or mobile phone apps such as WhatsApp or Signal). Most importantly, the footage presented strong evidence in terms of agency, which is crucial to identify specific units or command responsibility. An inventory number visible on a rifle of a Nigerian soldier suggests that it belonged to the Support Company of the 81 Battalion (and Amnesty International researchers confirmed with sources within the military that this specific rifle has not been reported stolen).[49] Such findings might have political or legal implications. The International Criminal Court is currently conducting a preliminary examination into the armed conflict in north-east Nigeria. Additionally, national legislation, such as the Leahy Law in the United States, prohibits military aid to foreign security forces that are implicated in serious violations of human rights. It is precisely this sort of detail on unit involvement and command responsibility that has serious implications on the vetting process of the Leahy Law.[50]

Another example comes from Bama, 70 km east of Maiduguri, where several individuals recorded various incidents. Multiple videos showed how Boko Haram fighters in September 2014 took prisoners from Bama prison, tied them behind a truck, dragged them to a bridge, lined them up,

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as Sri Lanka Fights Cornered Rebels," New York Times, January 27, 2009, accessed July 28, 2016, http://www.nytimes.com/2009/01/28/world/asia/28lanka.html?_r=0.

[45] See especially Figure 11, American Association for the Advancement of Science "High-Resolution Satellite Imagery and the Conflict in Sri Lanka," (2009), accessed July 28, 2016, http://www.aaas.org/geotech/sri_lanka_2009.

[46] "Man arrested with dead baby in suitcase in Abuja," September 16, 2012, accessed July 28, 2016, http://naijagists.com/man-arrested-with-dead-baby-stuffed-suitcase-in-abuja/.

[47] Amnesty International, "Nigeria: More than 1,500 killed in armed conflict in north-east Nigeria in early 2014," March 31, 2014, accessed July 28, 2016, https://www.amnesty.org/en/documents/AFR44/004/2014/en/.

[48] "Génocide en Centrafrique: L'élimination des musulmans se poursuit paisiblement," Alwihda Info, June 3, 2014, http://www.alwihdainfo.com/Genocide-en-Centrafrique-L-elimination-des-musulmans-se-poursuit-paisiblement_a11542.html. [Warning: Graphic Content]

[49] Amnesty International, "Nigeria: Gruesome footage implicates military in war crimes," August 5, 2014, accessed July 28, 2016, https://www.amnesty.org/en/latest/news/2014/08/nigeria-gruesome-footage-implicates-military-war-crimes/.

[50] "Leahy Vetting," U.S. Department of State, accessed July 25, 2016, https://www.humanrights.gov/leahy-vetting.html.

Figure 4. Some colors inverted using VLC Player, for enhancement purposes only. Graphic produced by author.

killed them, and threw their corpses in a river. Due to the clear geographic landmarks visible in the video (prison and bridge), it was possible to confirm the exact locations and reconstruct the event.

More than a year earlier, the Nigerian military conducted a screening operation of hundreds of men in the same town, after which 35 were arrested and later executed. Several, lengthy videos allowed analysts to reconstruct the operation, identifying the exact location as 380 meters east of Bama market. At one point, eyewitnesses were filming each other. Such multi-angle videos will play an increasingly important role in human rights investigations, as they allow for detailed crime scene reconstructions, especially when combined with satellite imagery, as is already common in law enforcement investigations. Examples for such an approach are Situ Research's, Forensic Architecture's and Human Rights Watch's reconstruction of White Phosphorous attacks on residential areas in Gaza in 2009,[51] or Forensic Architecture's and Amnesty International's investigation into the attack on Rafah on August 1, 2014.[52]

Describing the amount of human rights relevant photo and videographic evidence from Syria goes beyond the scope of this article, but also raises important questions about archiving and evidence handling. Jay Aronson in his contribution to this special issue provides an analysis on preservation of human rights related video, in which he identifies two core tensions: first, the purpose of preservation; and second, the control over the saved content. Many important questions around consent, security, privacy, and ethics can be traced back to these two issues, as Jay Aronson argues in his article published in this special issue.[53] The Syria Justice and Accountability Center[54],

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[51] "White Phosphorus Report," Situ Research, accessed July 25, 2016, http://www.situresearch.com/works/white-phosphorus-report.

[52] "'Black Friday': Carnage in Rafah," Amnesty International, accessed July 25, 2016, https://blackfriday.amnesty.org/.

[53] Jay Aronson, "Preserving Human Rights Media," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 82-99.

[54] U.S. Department of State, "The Syria Justice & Accountability Center. Fact Sheet," February 20, 2013, accessed July 29, 2016, http://www.state.gov/r/pa/prs/ps/2013/02/205031.htm.

as a newly created organization, has been tasked with this effort, among other responsibilities. Automated analysis will play an increasingly important role in processing large datasets for human rights research and event reconstruction. For example, Carnegie Mellon University's Center for Human Rights Science assisted with investigating the killing of protestors in Ukraine by processing 520 videos with a total length of 65 hours with an audio analysis and synchronization tool.[55]

To give a final example of the increasing evidentiary value of video, digital content is playing an increasingly important role in assessing the legality or proportionality of airstrikes by international forces. Videos of suspected Russian airstrikes have been used to identify specific strike locations in residential areas, as analysts can use videos and photographs to geolocate specific buildings that were destroyed by airstrikes. For example, 17 civilians, including three children, were killed and at least 34 civilians were injured in September 2015 in Talbisseh, when suspected Russian air strikes hit Karama Street in the center of the city.[56] Similarly, multiple buildings in a residential neighborhood in the immediate vicinity of a mosque were flattened in one of the first US led coalition airstrikes, on Kafr Deryan, in September 2014. While this information alone does not answer the question if this was a legitimate military target, the fact that videos show what appear to be multiple civilian victims, including children,[57] would suggest otherwise, and raises questions for military commanders about violations of IHL. Additionally, Human Rights Watch identified the missile remnants visible in a photograph circulated online as the turbofan engine of a U.S. Tomahawk missile,[58] tying the airstrikes in the area to US forces. This assessment is further supported by YouTube videos released by the U.S. Navy showing the launch of cruise missiles on the day of the attack.[59]

As the above examples have demonstrated, cell phones have become important tools to collect and subsequently transmit digital audiovisual content that can provide important facts about the date and location of an incident. However, they go beyond providing such basic facts and often present crime base or linkage evidence, which reveal violations that would have gone otherwise unnoticed, and in the best case scenario identify the responsible actor. Tapping into this potential for reducing information uncertainty can provide the necessary facts and evidence to counter perpetrator strategies of denial and minimization.

As the final case study will demonstrate in detail, combining satellite imagery with citizen media can increasingly strengthen mass atrocity research.

The Convergence of ICTs to Lead Atrocity Research
There has been a notable shift since human rights groups started using remote sensing in the early 2000s as citizen media can gradually guide satellite imagery analysis. Such a tip and cue process was not possible before the widespread proliferation of camera-enabled cell phones. Research into suspected mass graves in Burundi provides a good case study of new ICT-led workflows in human rights crisis research.

In December 2015, reports about mass graves emerged shortly after Burundian security forces killed dozens of people on December 11, 2015. The killings included well-documented incidents of extrajudicial killings with evidence of close range shots to the head of some victims and at least

[55] Junwei Liang, et al, "Video Synchronization and Sound Search for Human Rights Documentation and Conflict Monitoring," Center for Human Rights Science Report, (June 2016), accessed July 25, 2016, http://www.cmu.edu/chrs/documents/Video-Synchronization-Technical-Report.pdf.

[56] Amnesty International: Syria, "'Civilian objects were not damaged': Russia's statements on its attacks in Syria unmasked," December 23, 2015, accessed July 29, 2016, https://www.amnesty.org/en/documents/mde24/3113/2015/en/.

[57] Christoph Koettl, "Dissecting a US Airstrike in Syria," October 26, 2016, accessed March 17, 2017, https://medium.com/lemming-cliff/dissecting-a-us-airstrike-in-syria-9c6e31b12fff#.4wy2yz5f2.

[58] Human Rights Watch, "US/Syria: Investigate Possible Unlawful US Strikes. At Least 7 Civilians Dead; Residents Say No Evident Military Target," September 27, 2014, accessed July 29, 2016, https://www.hrw.org/news/2014/09/27/us/syria-investigate-possible-unlawful-us-strikes.

[59] U.S. Navy, "USS Arleigh Burke launches Tomahawk Land Attack Missiles to combat ISIL," September 23, 2014, accessed July 29, 2016, https://www.youtube.com/watch?v=H9034BawdX4; "USS Philippine Sea launches Tomahawk Land Attack Missiles to combat ISIL," September 23, 2014, accessed July 29, 2016, https://www.youtube.com/watch?v=6a-d67lJfdk.

one body tied up. However, the question of what happened to the bodies remained unanswered for several weeks after the incident. By January 2016, images started to appear on social media that claimed to show mass graves.

A shaky cell phone video of a desolated area was shared with Amnesty International. The short video did not reveal many reference points and ended with showing a small area of disturbed earth. A slow motion review of the video allowed analysts to extract crucial details: First, the video appeared to show five separate, small mounds. Second, the video included at least some geographic reference points, most notably an abandoned building, grave stones, and palm trees. Field and news reports suggested that one possible mass burial site was near Mpanda cemetery, to the north of the capital Bujumbura. A review of pre-event satellite imagery on Google Earth and other geographic databases eventually allowed pinpointing the exact location of the likely gravesite. Equipped with this new information extracted from the video and Google Earth, Amnesty International was able to commission analysis of new satellite imagery (Google Earth imagery normally does not provide the most current imagery. In this case, the available imagery was from prior to the event of interest).

Figure 5. © DigitalGlobe/Google Earth. November 3, 2015. Graphic produced by author.

The analysis of new satellite imagery provided further important details. A time series of images showed that the area of disturbed earth emerged between 3 November and 22 December 2015. Another satellite image from early January 2016 showed light vegetation re-growth, suggesting that the earth disturbance visible in the December image was likely very fresh, thus being consistent with the eyewitness claims that it is a mass burial site containing bodies of some of those killed on 11 December.

This case study describes the successful deployment of a combination of ICTs to detect a likely mass atrocity crime and led to the publication of a briefing that would have been impossible without the use of ICTs.[60] Specifically, combining multiple technologies allowed the following:

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[60] Amnesty International, "Burundi: Suspected mass graves of victims of 11 December violence," January 29, 2016, accessed July 30, 2016, https://www.amnesty.org/en/documents/afr16/3337/2016/en/; Please note that a briefing on the killings, published in the immediate aftermath of the events, was based on field research: "'My children are scared': Burundi's deepening human rights crisis," December 22, 2015, accessed July 30, 2016, https://www.amnesty.org/en/documents/afr16/3116/2015/en/.

1. Gaining access to a restricted area: Both video and satellite imagery allowed to gain remote access to a suspected mass grave site, which at that point was restricted to international, independent fact-finders.
2. Determining the exact location: The video, despite being of low quality and lacking any major landmarks or reference points, allowed establishing the exact location of the suspected mass burial site.
3. Determining the time frame: Commercially available satellite imagery confirmed the exact location of the site. Most importantly, however, the time series of satellite imagery allowed establishing a time window within which the suspected grave site was created.

Finally, it is important to stress that ICTs, by themselves, did not reveal all details about this incident. Both the video and satellite images showed disturbed earth at a specific location, created in a specific time-window, but this did not necessarily prove the existence of a mass grave, nor what was below the disturbed earth.[61] Building on traditional research (eyewitnesses testimony), however, this technology-enabled research helped build a strong case, which allowed calls for accountability and further investigations, including physical access to the site to conduct forensic analysis. Thus, the analysis strongly reduced the uncertainties surrounding multiple reports of mass graves that were circulating for weeks in the aftermath of the extrajudicial executions.

Teaching the Next Generation
When teaching the next generation of human rights researchers, it is imperative to not solely transfer technical skills. No matter which technology is used, at the core should be the responsible use of data, which is defined as

> [t]he duty to ensure people's rights to consent, privacy, security and ownership around the information processes of collection, analysis, storage, presentation and reuse of data, while respecting the values of transparency and openness.[62]

Beyond this core guiding principle, different technologies create different risk scenarios, which should be considered at the onset of any new research project. Especially the increase of audiovisual materials through cell-phone cameras leads to datasets whose content often include information that can be used to identify specific individuals, a challenge that will only be exacerbated by the increased use of UAVs. In addition to the content, metadata that is invisible embedded in photographs or videos can reveal sensitive information about a person.

Satellite imagery that reveals little to no information about specific individuals, however, creates other risk factors. These include providing intelligence to a party to a conflict, or the public dissemination of other sensitive information such as trapped civilians who are fleeing violence. Only the responsible use of data (based on well-established professional standards) generated from inherent surveillance technologies such as satellites and drones can solve the tension of its use by human rights groups, who at the same time criticize the increase in government mass surveillance.

More and more resources exist that can be used in teaching on these topics. They include a growing body of academic articles on remote sensing,[63] in addition to more technical resources

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[61] However, for research on grave detection from air- or space-borne sensors, see G. Leblanc, M. Kalacska, and R. Soffer, "Detection of single graves by airborne hyperspectral imaging," *Forensic Science International*, Volume 245 (2014), 17-23; Hannah Hoag, "Using Technology to Find Hidden Graves," Discover, (October 2015,) accessed July 30, 2016, http://discovermagazine.com/2015/oct/14-body-of-evidence; M. Kalacska, et al, "The Application of Remote Sensing for Detecting Mass Graves: An Experimental Animal Case Study from Costa Rica," *Journal of Forensic Sciences*, 54 (2009), 159–166.

[62] "DatNav: How to navigate and integrate digital data in human rights research," (August 2016), accessed September 2015, https://www.theengineroom.org/wp-content/uploads/2016/09/datnav.pdf, 63.

[63] See, for example, Susan Wolfinbarger, "Remote Sensing as a Tool for Human Rights Fact-Finding," in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey, (Oxford: Oxford University Press, 2015), 463-478; Steven Livingston, "Commercial Remote Sensing Satellites and the Regulation of Violence in Areas of Limited Statehood," CGCS Occasional Paper Series on ICTs, Statebuilding, and Peacebuilding in Africa, Nr. 5, (January 2015),

produced by universities.[64] Initial in-depth writings have been published in the area of open source research and verification[65] and the use of mobile technology[66], in addition to the sharing of best practices, hands-on guides,[67] case studies[68] and ethics.[69]

What is still missing is the development of actual curricula on new methodologies in human rights research, although first academic programs in this field are emerging.[70] Additionally, large human rights groups have developed multi-day trainings for both internal and external audiences focusing exclusively on the ethical and impactful use of new technologies in human rights research.

Finally, there are increasing opportunities for students to gain practical experience in this work, through, for example, the Syracuse University's Syrian Accountability Project[71] or the Digital Verification Corps, a partnership between Amnesty International and the Universities of Berkeley, Essex, Toronto and Pretoria.

Conclusion and Outlook

Due to the high level of information uncertainty during human rights crises, there is a very high premium on fact-finding and the collection of reliable evidence. As this paper has shown, certain ICTs can help achieve this goal and can contribute meaningfully to mass atrocities research by reducing uncertainties. Often, this comes through the collection and transmission of highly relevant details on specific violations, including crime base and linkage evidence. To be clear, the technologies described here are most impactful if they are part of a holistic approach to crisis research: integrated into traditional research and deployed to address specific information gaps, instead of relying on a single technology or source.

There are a number of steps the human rights community can take to increase the efficiency of its current use of ICTs. First, human rights organizations can provide more trainings to their research staff. For example, Amnesty International has started to integrate geospatial and open source research and verification into its core research methodology training. While this is an important step, more can be done. Resources on methodology in these areas are still insufficient and there are needs and opportunities that can be addressed outside the practitioners' field. Academics could contribute to the development of guidelines on the use of ICTs based on well-established and proven human rights research methodologies. Funders can support projects that go beyond tool development, such as grants for curricula development, in order to provide the next generation of researchers with the appropriate coursework.

Finally, human rights groups largely work in silos when it comes to filtering out misinformation from relevant content. While human rights crisis reporting increasingly builds on digital content and technology enabled research, the misinformation that was encountered during the research process largely remains on the computers or in the individual memory of a researcher. As a lot of digital misinformation is recycled content that re-emerges during crises, knowledge sharing and

accessed September 15, 2016, http://www.global.asc.upenn.edu/app/uploads/2015/01/Livingston_Final.pdf.

[64] See, for example, "The Nature of Geographic Information. An Open Geospatial Textbook," accessed September 15, 2015, https://www.e-education.psu.edu/natureofgeoinfo/.

[65] Koettl, *Citizen Media Research and Verification*.

[66] Jay Aronson, "Mobile phones, social media and big data in human rights fact-finding. Possibilities, challenges, and limitations," in *The Transformation of Human Rights Fact-Finding*, eds. Philip Alston and Sarah Knuckey, (Oxford: Oxford University Press, 2015), 441-461.

[67] "Citizen Evidence Lab," Amnesty International, accessed September 15, 2016, https://citizenevidence.org/.

[68] Christoph Koettl: "Using UGC in human rights and war crimes investigations," in *Verification Handbook for investigative reporting*, ed. Craig Silverman, (Maastricht: EJC, 2015), Chapter 7, accessed September 15, 2015, http://verificationhandbook.com/book2/chapter7.php.

[69] On the topic of crowdsourcing, which has not been addressed in this article, see Martin Shields, "The Technologist's Dilemma. Ethical Challenges of Using Crowdsourcing Technology in Conflict and Disaster-Affected Regions," in *Georgetown Journal of International Affairs* Vol. 14, No. 2 (Summer/Fall 2013*)*, 157-163.

[70] See, for example, the University of Essex's focus on technology and human rights in its 2015 Summer School, accessed September 15, 2016, https://www.essex.ac.uk/hrc/summerschool/default.aspx.

[71] "Syria Accountability Project", Syracuse University College of Law, accessed September 15, 2016, http://syrianaccountabilityproject.org/.

the creation of community knowledge, in the form of a shared database, could further help address the lemon problem.

Bibliography

Amnesty International. "'Shocking' Video Shows Armed Group Carrying Out Summary Killings of Men in Syria's Idlib Province, Says Amnesty International." November 1, 2012. Accessed July 25, 2016, http://www.amnestyusa.org/news/press-releases/shocking-video-shows-armed-group-carrying-out-summary-killings-of-men-in-syria-s-idlib-province-says.

--------. "North Korea: New images show blurring of prison camps and villages." March 7, 2013. Accessed July 27, 2016. https://www.amnesty.org/en/latest/news/2013/03/north-korea-new-images-show-blurring-prison-camps-and-villages/.

--------. "New satellite images show scale of North Korea's repressive prison camps." December 5, 2013. Accessed July 27, 2016. https://www.amnesty.org/en/latest/news/2013/12/new-satellite-images-show-scale-north-korea-s-repressive-prison-camps/.

--------. "Nigeria: More than 1,500 killed in armed conflict in north-east Nigeria in early 2014." March 31, 2014. Accessed July 28, 2016. https://www.amnesty.org/en/documents/AFR44/004/2014/en/.

--------. "Nigeria: Gruesome footage implicates military in war crimes." August 5, 2014. Accessed July 28, 2016. https://www.amnesty.org/en/latest/news/2014/08/nigeria-gruesome-footage-implicates-military-war-crimes/.

--------. Syria, " 'Civilian objects were not damaged': Russia's statements on its attacks in Syria unmasked." December 23, 2015. Accessed July 29, 2016. https://www.amnesty.org/en/documents/mde24/3113/2015/en/.

--------. "Burundi: Suspected mass graves of victims of 11 December violence." January 29, 2016. Accessed July 30, 2016. https://www.amnesty.org/en/documents/afr16/3337/2016/en/.

--------. "'My children are scared': Burundi's deepening human rights crisis." December 22, 2015. Accessed July 30, 2016. https://www.amnesty.org/en/documents/afr16/3116/2015/en/.

--------. "'Black Friday': Carnage in Rafah." Accessed July 25, 2016. https://blackfriday.amnesty.org/.

--------. "Citizen Evidence Lab". Accessed September 15, 2016. https://citizenevidence.org/.

American Association for the Advancement of Science. "High-Resolution Satellite Imagery and the Conflict in Sri Lanka." (2009) Accessed July 28, 2016. http://www.aaas.org/geotech/sri_lanka_2009.

--------. "Documentation of Petrochemical Release: Bodo, Nigeria." Accessed July 26, 2016. http://www.aaas.org/page/documentation-petrochemical-release-bodo-nigeria.

Akerlof, George. "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism." *The Quarterly Journal of Economics* 84, 3 (Aug 1970): 488-500. https://doi.org/10.2307/1879431

Aronson, Jay D. "Mobile phones, social media and big data in human rights fact-finding. Possibilities, challenges, and limitations." In The Transformation of Human Rights Fact-Finding, edited by Philip Alston and Sarah Knuckey, 441-461. Oxford: Oxford University Press, 2015.

--------. "Preserving Human Rights Media." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 82-99. http://doi.org/10.5038/1911-9933.11.1.1441

Bermudez, Joseph S. Jr., Andy Dinville, and Mike Eley. "North Korea: Ch'oma-bong Restricted Area." March 17, 2016. Accessed July 27, 2016. https://www.hrnk.org/uploads/pdfs/ASA_HRNK_Chmbg_201603_FINAL.pdf.

Bowcott, Owen. "eyeWitness to Atrocities: the app aimed at bringing war criminals to justice." The Guardian, June 7, 2015. Accessed July 25, 2016, https://www.theguardian.com/technology/2015/jun/08/eyewitness-to-atrocities-the-app-aimed-at-bringing-war-criminals-to-justice.

Bromley, Lars. "Relating violence to MODIS fire detections in Darfur, Sudan." *International Journal of Remote Sensing*, 31, 9 (2010): 2277-2202. Accessed July 29, 2016. https://doi.org/10.1080/01431160902953909

DatNav: How to navigate and integrate digital data in human rights research. (June 2016). Accessed July 25, 2016, https://www.theengineroom.org/wp-content/uploads/2016/09/datnav.pdf.

Dubberley, Sam. "New data and the importance of collaboration." July 18, 2016. Accessed July 28, 2016. https://citizenevidence.org/2016/07/18/new-data-and-the-importance-of-collaboration/.

Edwards, Scott. "Fieldwork from the Sky: Remote Data Collection from War Zones." International Sudan Studies Association 2009 annual conference in Pretoria (2009), South Africa.

Google. "Terra Bella." Accessed March 17, 2017. https://terrabella.google.com/.

Hamilton, Chris. "Houla massacre picture mistake." BBC, May 29 2012. Accessed July 25, 2016. http://www.bbc.co.uk/blogs/theeditors/2012/05/houla_massacre_picture_mistake.html.

Hawk, David. "The Hidden Gulag. Exposing North Korea's Prison Camps. Prisoners' Testimonies and Satellite Photographs. 2003." US Committee for Human Rights in North Korea, 2003. Accessed July 27, 2016. https://www.hrnk.org/uploads/pdfs/NKHiddenGulag_DavidHawk.pdf.

Hoag, Hannah. "Using Technology to Find Hidden Graves." Discover, October 2015. Accessed July 30, 2016. http://discovermagazine.com/2015/oct/14-body-of-evidence.

Humanity United. "The Tech Challenge for Atrocity Prevention." Accessed July 20, 2016. http://thetechchallenge.org/blog/.

Human Rights Center, School of Law, University of Berkeley. "Beyond Reasonable Doubt. Using scientific evidence to advance prosecutions at the International Criminal Court." Workshop report. Accessed July 30, 2016. https://www.law.berkeley.edu/files/HRC/HRC_Beyond_Reasonable_Doubt_FINAL.pdf.

Human Rights Watch. "Sri Lanka: Execution Video Shows Need for International Inquiry." August 26, 2009. Accessed July 27, 2016. http://www.hrw.org/news/2009/08/26/sri-lanka-execution-video-shows-need-international-inquiry.

--------. "US/Syria: Investigate Possible Unlawful US Strikes. At Least 7 Civilians Dead; Residents Say No Evident Military Target." September 27, 2014. Accessed July 29, 2016. https://www.hrw.org/news/2014/09/27/us-syria-investigate-possible-unlawful-us-strikes.

Institute of International Studies, University of California Berkeley. "Robert Keohane Interview: Conversations with History", March 9, 2004. Accessed July 27, 2016. http://globetrotter.berkeley.edu/people4/Keohane/keohane-con0.html.

Kalacska, M. E., L.S. Bell, G. Arturo Sanchez-Azofeifa, and T. Caelli. "The Application of Remote Sensing for Detecting Mass Graves: An Experimental Animal Case Study from Costa Rica." *Journal of Forensic Sciences*, 54 (2009): 159–166. https://doi.org/10.1111/j.1556-4029.2008.00938.x

Keohane, Robert O. *After Hegemony: Cooperation and Discord in the World Political Economy*. Princeton: Princeton University Press, 1984.

Koettl, Christoph. "#DemandJustice: The Website War Criminals Don't Want You To Share." July 19, 2012. Accessed July 27, 2016. http://blog.amnestyusa.org/africa/demandjustice-the-website-war-criminals-dont-want-you-to-share/.

--------. "Using UGC in human rights and war crimes investigations". In *Verification Handbook for investigative reporting*, ed. Craig Silverman, Chapter 7. Maastricht: EJC, 2015.

--------. "Citizen Media Research and Verification: An Analytical Framework for Human Rights Practitioners." Human Rights in the Digital Age: CGHR Practitioner Paper 1, Cambridge, UK: University of Cambridge Centre of Governance and Human Rights, (January 2016). Accessed July 27, 2016. http://www.cghr.polis.cam.ac.uk/publications/cghr-practitioner-papers-series/paper-1.

--------. "Dissecting a US Airstrike in Syria." October 26, 2016. Accessed March 17, 2017. https://medium.com/lemming-cliff/dissecting-a-us-airstrike-in-syria-9c6e31b12fff#.4wy2yz5f2.

Leblanc, G., M. Kalacska, and R. Soffer. "Detection of single graves by airborne hyperspectral imaging." *Forensic Science International*, Volume 245 (2014), 17–23. https://doi.org/10.1016/j.forsciint.2014.08.020

Liang, Junwei, Susanne Burger, Alex Hauptmann, and Jay D. Aronson. "Video Synchronization and Sound Search for Human Rights Documentation and Conflict Monitoring." Center for Human Rights Science Report, (June 2016). Accessed July 27, 2016. http://www.cmu.edu/chrs/documents/Video-Synchronization-Technical-Report.pdf

Little, Mark. "The Human Algorithm," May 20, 2011. Accessed July 27, 2016. http://blog.storyful.com/2011/05/20/the-human-algorithm-2.

Livingston, Steven. "Commercial Remote Sensing Satellites and the Regulation of Violence in Areas of Limited Statehood." CGCS Occasional Paper Series on ICTs, Statebuilding, and Peacebuilding in Africa, Nr. 5, (January 2015). Accessed July 27, 2016. http://www.global.asc.upenn.edu/app/uploads/2015/01/Livingston_Final.pdf.

Naimer, Karin, Widney Brown, and Ranit Mishori. "MediCapt in the Democratic Republic of the Congo: The Design, Development, and Deployment of Mobile Technology to Document Forensic Evidence of Sexual Violence." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 25-35.

Office of the UN High Commissioner for Human Rights, United Nations. *Technical Note prepared by the Special Rapporteur on extrajudicial, summary or arbitrary executions, Mr. Philip Alston, in relation to the authenticity of the "Channel 4 videotape."* January 7, 2010. Accessed July 27, 2016. http://groundviews.org/wp-content/uploads/2011/05/un_technical_note.pdf?x98647.

--------. "North Korea: UN Commission documents wide-ranging and ongoing crimes against humanity, urges referral to ICC," February 17, 2014. Accessed July 27, 2016. http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=14255&LangID=E#sthash.ukBW9bLP.dpuf.

--------. "Satellite images of currently existing political prison camps (kwanliso) in the Democratic People's Republic of Korea." January 28 2014. Accessed July 27, 2014. http://www.ohchr.org/EN/HRBodies/HRC/CoIDPRK/Pages/ReportoftheCommissionofInquiryDPRK.aspx.

Orentlicher, Diane. "Bearing witness: The art and science of human rights fact-finding." *Harvard Human Rights Journal* 3 (1990): 83-135.

Pain, Julien. "Beware of internet misinformation: hoax footage of atrocities in Ivory Coast." France 24, July 4, 2011. Accessed July 27, 2016. http://observers.france24.com/en/20110407-beware-internet-misinformation-hoax-footage-atrocities-ivory-coast.

PBS Newshour. "A new generation of human rights investigators turns to high-tech methods." February 13, 2017. Accessed February 27, 2017. https://www.youtube.com/watch?v=dDLtL8aWRAQ.

Raymond, Nathaniel A., Brittany L. Card, and Isaac L. Baker. "A New Forensics: Developing Standard Remote Sensing Methodologies to Detect and Document Mass Atrocities." *Genocide Studies and Prevention: An International Journal,* Volume 8, Issue 3, (2013) Article 6. Accessed July 26, 2016. http://scholarcommons.usf.edu/cgi/viewcontent.cgi?article=1031&context=gsp.

Reuters, Video Shows Harsh Life in N. Korean Camp - Japan TV, February 27, 2004. Accessed March 17, 2017. http://www.washingtonpost.com/wp-dyn/articles/A11548-2004Feb27.html.

"Rodney King beating video, full length footage." YouTube video, 8:08. March 3, 1991. Accessed July 25, 2016. https://www.youtube.com/watch?v=sb1WywIpUtY.

Spada, Andrea. Twitter Post. March 1, 2016, 6:43a.m. https://twitter.com/Baldoriano/status/704633182063370240.

Senguptajan, Somini. "U.N. Staff and Hospital Come Under Shelling as Sri Lanka Fights Cornered Rebels." New York Times, January 27, 2009. Accessed July 28, 2016. http://www.nytimes.com/2009/01/28/world/asia/28lanka.html?_r=0.

Shields, Martin. "The Technologist's Dilemma. Ethical Challenges of Using Crowdsourcing Technology in Conflict and Disaster-Affected Regions." *Georgetown Journal of International Affairs* Volume Vol. 14, No. 2 (Summer/Fall 2013), 157-163.

Situ Research. "White Phosphorus Report." Accessed July 25, 2016. http://www.situresearch.com/works/white-phosphorus-report.

Shoichet, Catherine E. and Madison Park. "North Korean prison camp survivor admits inaccuracies, author says." *CNN*, January 20, 2015. Accessed July 27, 2016. http://www.cnn.com/2015/01/18/asia/north-korea-defector-changes-story/.

Silverman, Craig. "Lies, Damn Lies, and Viral Content. How news websites spread (and debunk) online rumors, unverified claims, and misinformation." Tow Center for Digital Journalism, February 10, 2015. Accessed July 30, 2016. http://towcenter.org/research/lies-damn-lies-and-viral-content/.

Syracuse University College of Law. "Syria Accountability Project." Accessed September 15, 2016. http://syrianaccountabilityproject.org/.

Taft, Sally. "How did you help us change the way we report the news?" December 27, 2014. Accessed July 28, 2016. http://www.bbc.com/news/world-30421631.

United Nations. *Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Christof Heyns: Use of information and communications technologies to secure the right to life*, April 24, 2015. A/HRC/29/37.

U.S. Department of State. "Leahy Vetting." Accessed July 25, 2016. https://www.humanrights.gov/leahy-vetting.html

Wolfinbarger, Susan. "Remote Sensing as a Tool for Human Rights Fact-Finding." In *The Transformation of Human Rights Fact-Finding*, edited by Philip Alston and Sarah Knuckey, 463-478. Oxford: Oxford University Press, 2015.

"Zoran Petrovic video." YouTube video, 1:16. July 14, 1995. Accessed July 25, 2016. https://www.youtube.com/watch?v=344e_D-Vc7g.

Jurisdiction, Privacy, and Ownership: DNA Technology and Field Dynamics in Conflict-Related Mass Fatalities

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Introduction

Criminal investigations and trials center around identifying evidence relevant to a defined crime and linked to an identified perpetrator and identifiable victim. In the case of death investigations, the cause of death is determined by a government authority—a medical examiner or coroner—to be homicide, suicide, accidental, natural or undetermined. This determination has defined legal consequences, such as the opening of a criminal investigation in the case of a homicide. Part of the state's responsibility in the course of a death investigation is to ensure that the victim is correctly identified as the individual they were at birth. It is therefore in the state's interest to ensure that human identifications are conducted under controlled circumstances and are subject to judicial review. The state acknowledges the death, generally via a death certificate, and ensures the implementation of legal consequences and processes, and in the course of so doing, effectively acknowledges the truth of what happened.

In the thirty years since DNA profiling was first used in a criminal case,[1] investigators have come to rely on DNA as an important tool in identifying individuals, whether living or deceased. The role of DNA-supported identifications of human remains in mass fatalities has become particularly important as a means of dealing with large numbers of unidentified victims. In countries experiencing armed conflict or emerging therefrom, rule of law and with it forensic services are at best overwhelmed or have ceased functioning altogether. The short term solution of outsourcing human identifications with the intent of expediting the identification and repatriation of remains to the families of victims is one that appeals to national decision makers, victim families, and often also the international donor community. This can, however, lead to neglect of existing national forensic and infrastructure and the state's obligation of due process in the case of wrongful deaths, divorcing the local jurisdiction from the overall human identification effort.[2]

The current article explores the dynamics and challenges of undertaking human identifications in states experiencing armed conflict or emerging therefrom. Of primary concern to the authors is the fact that where a state lacking the necessary forensic infrastructure outsources DNA work for human identifications, it tends to lead to the abdication of the necessary jurisdiction and scientific transparency over DNA samples and their analysis. This can complicate the resolution of discrepancies that may arise between DNA laboratory results and field investigations. It also raises important questions about consent, privacy and human rights. The authors argue that the role of the State remains integral to a legitimate human identification process. It is the State that makes the ultimate decision to identify an individual and confirm their death, and it is the State that is responsible for human rights, the right to the truth, civil identity and, through its administrative and judicial organs, review of decisions—something that can be overlooked in an outsourced context. Attempting to minimize initial delays in human identifications at the expense of building local knowledge, skills and necessary legal frameworks risks undermining the legitimacy of the human identification effort.

Human Identifications

Positive Human Identifications

Positive identification is a term used in the context of forensic human identifications to refer to the definitive determination that a person or deceased remains is that of a specified individual.[3]

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[1] See *R v Pitchfork,* England and Wales Court of Appeal, May 14, 2009.

[2] Stefan Schmitt, Amanda Sozer, Gillian Fowler and Dallas Mazoori, "Physicians for Human Rights: The Role of Forensic Archaeology in Transitional Justice Contexts," in *Forensic Archaeology: A Global Perspective,* ed. W.J. Mike Groen et al. (Chichester: Wiley-Blackwell, 2015), 476.

[3] Segen's Medical Dictionary, "Positive Identification," accessed August 5, 2016, http://medical-dictionary.thefreedictionary.com/positive+identification.

A positive identification involves correlating known information about the deceased (or a missing person) with information from the body to a level of certainty so that a legal authority, typically medical examiner or coroner, is satisfied that the deceased individual is who they are recorded to be within an identification system, such as a civil registry.

Positive Human Identifications in Mass Fatalities
A mass fatality is an event resulting in more deaths than the local available resources can process.[4] A mass fatality event can be manmade (armed conflict), natural disaster (tsunami), or accident that may be due to manmade or natural causes (plane crash). Mass fatalities occur under chaotic and uncontrolled conditions, and the number of victims is outside of what established forensic, law enforcement and judicial entities are prepared to handle. Such a context also requires stringent controls over the identification of human remains, which can often be fragmented, commingled, and it is unknown who exactly the victims could be.

Interpol has addressed this for controls in their Disaster Victim Identification Guide.[5] Interpol divides identification criteria into primary and secondary means of identification. The primary and most reliable means of identification are fingerprint comparisons between those of the decedent with existing fingerprint records, comparative dental analysis between existing dental records and the dental traits of the deceased and DNA kinship relationship and/or match analysis. Secondary means of identification include personal description, medical findings as well as evidence and clothing found on the body. Secondary means of identification serve to support identification by primary means and are not sufficient as a sole means of identification in mass fatalities. However, even where a strong primary identification standard has been achieved it is good practice to record other evidence that supports the identification.

Unlike identifications that are made within the routine operations of a medical examiner, where often times the deceased is identified without primary means of identification (fingerprint, dental records, DNA) as the visual identification of the body by next of kin supported by the circumstances in which the death occurred are considered sufficient,[6] identification in mass fatalities where the context is not controlled should never be made solely by means of visual recognition.

The identification of human remains is therefore necessarily forensic in that the identification is a legal determination (sealed by the jurisdictional authority's signature on a death certificate) based on the scientific matching of information on reported missing persons with unidentified human remains.[7] The ways and methods through which this information is obtained and matched are important. The use of incorrect methods for collecting and documenting findings may render data, and the conclusions drawn from it, legally unacceptable, thus negatively impacting identification efforts.[8] For this reason, transparency in the processes and decision-making involved in them, coupled with the availability of review, is essential.

Dynamics of Human Identification Efforts in Mass Fatality Situations
The complexity of a human identification effort in the mass fatality context reflects the complexity of the event itself, and requires different agencies and jurisdictions to work together.[9] The knowledge, approaches, procedures and functions of the range of actors involved in mass fatality response can vary significantly. A proper chain of command and organisational structure is essential to ensuring effective coordination between the different actors and elements.[10] In addition, every mass fatality

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[4] Amanda Sozer, *DNA Analysis for Missing Person Identification in Mass Fatalities* (Boca Raton: CRC Press, 2014), 23.

[5] Interpol, *Disaster Victim Identification Guide* (Interpol, 2014), 39-40 and Annexure 12 "Methods of identification," 94-97, accessed May 10, 2017, https://www.interpol.int/INTERPOL-expertise/Forensics/DVI-Pages/DVI-guide.

[6] David Dolinak and Evan Matshes, "Identification," in *Forensic Pathology: Principles and Practice*, ed. David Dolinak et al. (Burlington: Elsevier, 2005), 555-562.

[7] International Committee of the Red Cross, *Missing People, DNA Analysis and Identification of Human Remains: A guide to best practice in armed conflicts and other situations of armed violence*, 2nd ed. (Geneva: ICRC, 2009).

[8] Amanda Sozer, *DNA Analysis*, 31.

[9] Ibid., 23.

[10] See *Disaster Victim Identification Guide*, 9, 34.

response should be subject to the laws and rules of the country in which it occurs, to ensure that the response is situated within a legal framework that is legally and constitutionally supported in that jurisdiction.[11]

It is important to recognise the following dynamics in mass fatality human identifications:[12]

- The human identification effort in response to the mass fatality is temporary in nature. Ultimately, the objective is to repatriate the remains of the dead to their families and determine the truth about what happened. Such a process might take decades.
- The resources needed to adequately respond to a mass fatality exceed existing forensic, law enforcement, and judicial capacities and will require temporary additional resources.
- Identifications and repatriation of remains will take time and some remains might never be identified or returned to their families.
- Expectations and consent of families regarding the use of DNA samples and the duration of the project need to be managed and addressed from the onset.
- It is important to decide on criteria for when the identification effort is concluded.[13] Eventually the project will wind down and the remaining workload should be integrated into routine governmental operations.
- A human identification effort needs to address the rights of victims' families to know the truth about what happened to their loved ones.
- The identification of human remains is a judicial decision based on forensic science to identify a particular set of human remains as the person they were identified as at birth. In many cases this will be by the state itself via a death certificate.

As mentioned, all human identifications are necessarily forensic in that the identification of human remains is an act of the state based on scientific inquiry. This scientific inquiry is the statutory duty of the medical examiner or coroner in most countries and should be the same in every death investigation so that each victim, whether one or 1000, is accorded the same consideration under the laws governing the investigation of and response to sudden or violent death.[14]

Sometimes, overwhelmed resources necessitate altering the response. For example, following the 9/11 attacks on the World Trade Center in New York City, the Chief Medical Examiner decided that given the cause and manner (blunt force trauma, homicide) were not in question, the primary focus was not on establishing the cause of death but on providing positive identification of the human remains, issuing death certificates and repatriating the remains to the victims' families.[15]

A mass fatality overwhelms the resources that routinely are at the disposition of any medical examiner. As DNA has become an efficient tool in processing large numbers of samples for the purposes of identification, the outsourcing of DNA profiling work to private laboratories is often a temporary solution. In such cases though, it still is the medical examiner in their forensic role who ultimately decides whether an identification can be made based on the data generated by the contracted laboratory. In that sense, jurisdiction over the samples, as well as any data resulting from the testing (the genetic profile) and its analysis, should be considered the responsibility of the medical examiner in the local jurisdiction.[16] In contexts where sample testing and analysis

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[11] Ibid., 19.

[12] Stefan Schmitt, Amanda Sozer, William Haglund, Nizam Peerwani, Howard Varney and Robert Lamburne, *Libyan Human Identification Needs Assessment and Gap Analysis* (Cambridge, MA: Physicians for Human Rights, 2013), 11.

[13] National Institute of Justice, *Lessons Learned From 9/11: DNA Identification in Mass Fatality Incidents*, (Washington, DC: National Institute of Justice, 2006).

[14] National Institute of Justice, *Mass Fatality Incidents: A Guide for Human Forensic Identifica*tion (Washington, DC: National Institute of Justice, 2005), v.

[15] Gaille MacKinnon and Amy Z. Mundorff, "The World Trade Center—September 11, 2001," in *Forensic Human Identification: An Introduction*, ed. Timothy James Upton Thompson and Sue M. Black, (Boca Raton: CRC Press, 2007), 487-488.

[16] *Disaster Victim Identification Guide*, "Jurisdiction."

is outsourced, it is also recommended to retain duplicate samples to allow for duplicate testing and/or analysis by a third party.[17] Such practice can be an important quality control measure and is particularly important where discrepancies or other doubts about the results given by the outsourced laboratory need to be independently reviewed.[18]

The management of the identification process from DNA sample collection to the extraction of profiles in the laboratory, the matching of such profiles, to the final issuing of identifications and death certificates can be difficult to achieve in contexts where states simply do not have the forensic infrastructure, capacity or an adequate medico-legal framework within which such a human identification effort is to be situated. Any mass fatality human identification effort needs to be viewed in its local social, political, cultural and economic context with due consideration given to whether a human identification effort is even possible, let alone sustainable.[19]

In recognition of such challenges on an international level, Interpol recommends the formation of an Identification Board that makes final decisions regarding the identification of victims. The composition of this Board is dependant on existing legal frameworks and its final jurisdiction is to be the home country for the victim identification, such as a coroner, judge, medical examiner, military or police authority.[20]

Often a mass fatality situation is understood as one requiring an immediate humanitarian response to grieving families resulting in the marginalisation of the legal aspects of the identification of human remains.[21] The following principles should be standard as part of any mass fatality human identification effort:[22]

- Victims have a right to their identity after their death;
- All victims are treated equally in the identification process—there is no discrimination on any basis whatsoever;[23]
- Victims are identified on the basis of set standards; and
- A single error can seriously damage the integrity of the entire process and any future processes.

How DNA Changed the Human Identification Landscape
Prior to the inclusion of DNA profiling as a tool in what for the purposes of this paper has been defined as primary means of identification, identifications relied on one to one body landmark comparisons.[24] Those established as most reliable are comparison of existing dental, medical, or fingerprint records with the corresponding body landmarks of the deceased. This requires the existence of such records, which often do not exist in countries experiencing or emerging from armed conflict. The deceased may have never visited a doctor or a dentist, or if they have, records may have been destroyed or never kept. Fingerprint records are generally only available if the deceased has been fingerprinted previously.[25] Medical records need to include documentation unique enough to establish a level of certainty in the positive identification that this could only be the deceased and none other. Even where records exist, they may be of little to no use in

[17] *Lessons Learned From 9/11*, 75.

[18] Amanda Sozer, et al, *Guidelines for Mass Fatality DNA Identification Operations* (Bethesda: AABB, 2010).

[19] Stefan Schmitt, Amanda Sozer and Dallas Mazoori, *Securing Afghanistan's Past: Human Identification Needs Assessment and Gap Analysis* (Cambridge, MA: Physicians for Human Rights, 2013), 6.

[20] *Disaster Victim Identification Guide*, 81.

[21] Schmitt et al, *Securing Afghanistan's Past*, 8.

[22] *Disaster Victim Identification Guide*, 39.

[23] Discrimination of victims on the basis of political (e.g. martyrs vs. missing) or other reasons is likely to introduce a sampling bias in reporting missing persons and consequently decrease the success rate at which identifications of human remains are made. See Schmitt et al, *Libyan Human Identification*, 19.

[24] Bruce Budowle, Frederick R. Bieber and Arthur J. Eisenberg, "Forensic aspects of mass disasters: Strategic considerations for DNA-based human identification," *Legal Medicine* 7 (2005), 231.

[25] For example, fingerprint identifications were successfully undertaken in Thailand following the December 2004 Tsunami as Thai citizens are routinely fingerprinted when they obtain their national ID card.

circumstances in which remains are highly fragmented or degraded and for which such body landmark comparisons are impossible.

Why DNA is a Game Changer

DNA-based testing is a powerful tool for victim identification as data is not restricted to any particular body landmark comparison, nor does it require existing records (such as fingerprints, medical or dental records) for comparison purposes.[26] DNA can be extracted from almost any tissue of the body of a deceased victim and can be compared to either pre-existing samples of a deceased's DNA[27] or in comparison with DNA from next of kin. DNA can be extracted from minute biological samples, diminishing the importance of the existence of a full mouth of teeth or the preservation of skin with sufficient ridge detail on the fingers in the remains of a deceased. Furthermore, whereas identifications based on one-to-one body landmark comparisons couldn't generate a statistical level of certainty in an identification, DNA for the first time was able to generate statistics which quantified the level of certainty of an identification. DNA technology made positive identifications possible without the need for a preserved body with its unique individual features.

DNA analysis effectively became the main tool for human identifications in mass fatality incidents. Consequently, the role of the DNA laboratory and its requirements for consistent sample collection and processing needed to be integrated into what traditionally had been the responsibility of death investigators in their efforts to locate and collect secondary means of identification as well as existing medical, dental, and/or fingerprint records for comparison purposes.

Prior to the advent of DNA analysis in the international arena of mass fatalities resulting from conflict, the medical examiner and/or forensic anthropologists and archaeologists (in the case of mass grave exhumations) controlled the entire process from exhumation in the field to the postmortem analysis of the remains in the laboratory. Due to the need for strict quality control and assurance processes in a DNA laboratory,[28] it became necessary to control consistency of biological sample collection in the field to their submission to the DNA laboratory. This needed to be linked with witness testimony (antemortem information) and postmortem analysis that established the biological profile of the unidentified human remains for purposes of narrowing down candidates for identification prior to engaging in costly DNA analysis. From an administrative and managerial aspect, the DNA laboratory came to dominate many aspects of the identification effort—from antemortem data/witness testimony gathering to exhumations and sample collection. DNA samples needed to be collected not only from the remains, but also from next of kin, and their relationship with the suspected missing person established. Effectively, anything collected in the field pertinent to DNA collection and analysis needed to be entered into the laboratory information management system and consequently had to comply with the laboratory's quality assurance and control processes to ensure reliable results which includes chain of custody level handling of samples and data.[29]

The efficiency with which DNA profile matching and analysis in mass fatalities can now be done has established it in many ways as the primary method of identification with traditional methods, such as fingerprints and dental records, verified by DNA analysis. Secondary means of identification, such as witness descriptions of the victim, general medical conditions during life, and circumstances of disappearance or death of the victim, are used in support of the DNA profile match.[30] These means of identification equally have to be coordinated with the DNA laboratory and the management of that data has to be integrated into the DNA led identification effort.

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[26] *Lessons Learned From 9/11*, 13.

[27] Reference samples can be collected from known personal items such as toothbrushes, hair brushes, razors, and others. See *Lessons Learned From 9/11*, 5.

[28] Sozer, et al, *Guidelines for Mass Fatality DNA Identification Operations.*

[29] Ibid.

[30] For example, inconsistencies between information from secondary means of identification with profile matches in the laboratory can be indications of errors that might have occurred in the sample collection process, i.e. sample switches, or in the data collection effort, which need to be resolved.

Relevance of Civil Identity to DNA Identifications
Right to an Identity under International Law
The provisions of international human rights treaties centered around birth registration and acquisition of nationality[31] require states to grant each person a name and legal personality, typically by issuing identity documents that are linked to rights and responsibilities within the state. The issuing of a birth certificate grants certain rights and responsibilities, and is often instrumental to the exercise of a myriad of other rights including the right to education, the right to work, the right to the highest attainable standard of health and the right to recognition as a person before the law. It is also allows the State to assert its rights in respect of the citizen. Similarly, the issuing of a death certificate has important legal implications for surviving family members, including in areas such as inheritance, land title, custody of children and compensation and insurance. Equally importantly though, it is also the process through which the cause and manner of death is certified. The ruling of a death to be the result of a homicide places the legal responsibility to investigate and adjudicate the death on the state. The issuance of a death certificate is not just a judicial determination identifying a person as he or she was identified at birth—civil identity—but also an important part of maintaining the rule of law by determining the cause and manner of death and investigating suspicious deaths.[32]

The Importance of Civil Identity in Mass Fatality Human Identification Efforts
The process of generating one's civil identity is performed through forensic human identification. For forensic purposes, an identity in such a case can be based on various factors, ranging from documentary evidence (adoption papers), to fingerprints, to DNA (affiliation with biological parents). In some cases, a subjective identification based on recognition of the remains in a controlled environment by witnesses and circumstantial evidence (e.g., someone died in bed surrounded by family members) is confirmed judicially by the medical examiner. The exact method of forensic human identification depends on the circumstances surrounding the death and the available evidence. In armed conflicts where people have died in uncontrolled circumstances and their remains have been lost, DNA identification plays an important role in establishing an individual's identity. However, DNA is only one piece of evidence in the human identification process and needs to be evaluated along with all other evidence.[33]

Civil identity takes on additional importance in mass fatality incidents, such as armed conflict. The humanitarian response to such incidents often overlooks the need for human identifications to be carried out within their proper legal context, according to standard forensic practices. Often death certificates are needed before inheritance and property transfers can proceed or before orphaned children can be placed in the care of guardians. In such contexts, an integrated system of civil identity that includes birth, death and marriage certificates play an important role in not only the human identification process, but also in the restoration of rights post-mass fatality.

The Need for a Domestic Legal Framework in Human Identifications
Jurisdiction
In any mass fatality human identification or disaster response effort the establishment of a clear command and control structure headed by a local authority that operates in accordance with the local legal framework is essential. Foreign experts and law enforcement officers deployed as part of a response need to be mindful that in general they have no legal powers within the host country and remain guests of that country.[34]

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[31] United Nations, *Universal Declaration of Human Rights*, Art 15(1), G.A. Res. 217A (III), UN GAOR, 3rd session, 183rd plen mtg., UN Doc A/810, 10 December 1948; International Covenant on Civil and Political Rights, Arts. 24(2), (3), opened for signature 19 December 1966, 999 U.N.T.S. 171, entered into force 23 March 1976; Convention on the Rights of the Child, Arts. 7, 8, opened for signature 20 November 1989, 1577 U.N.T.S. 3, entered into force 2 September 1990.

[32] Schmitt et al, *Libyan Human Identification*, 11-12; Schmitt et al, *Securing Afghanistan's Past*, 9-10.

[33] Ibid.

[34] Interpol, *Interpol Tsunami Evaluation Working Group: The DVI Response to the South East Asian Tsunami between December 2004*

As science has advanced, the forensic expert witness has come to be an integral actor in the criminal trial. Regardless of the circumstances in which a forensic expert testifies, they must do so honestly, impartially and independently, and be able to attest to such independence as part of any prepared report.[35] The domestic legal framework of the local jurisdiction provides not only the means by which the legitimacy of the scientific data, collection and analysis can be examined and reviewed, but also the means by which forensic experts are certified as competent to provide expert opinion evidence. Supervisory regulation allows for independent bodies to regularly check systems and evidence in individual cases.[36] This type of mandated transparency is essential in establishing public credibility in the results obtained by forensic scientists.[37]

Cross-examination and Review

Within a domestic legal framework, forensic evidence, like other forms of evidence, can—and should—be tested. In the adversarial trial evidence is tested in accordance with established rules of evidence and criminal procedure. The defence can cross-examine the prosecution's forensic expert and, in most jurisdictions, can also call an independent forensic expert to advance an alternative case theory or create reasonable doubt in the evidence proffered by the prosecution.

Access to judicial review of DNA laboratories, their scientists, and records is particularly important when it comes to the resolution of discrepancies that arise in human identifications. This is particularly salient when DNA matches done in the laboratory between reference samples (from the unidentified remains) and alleged family members are contradicted by the data gathered in the field. Discrepancies such as this indicate a problem somewhere between the sample and antemortem data collection and the sample processing and DNA matching done in the DNA laboratory. This can include things such as quality control issues in laboratories or at any step prior, accidental sample switches or mix-ups, contamination of samples or equipment, or miscommunication between field investigators and sample collectors. In a forensic setting these type of quality control issues are resolved by transparent technical, scientific and administrative responses, such as laboratory accreditations. This transparency is necessary to ensure confidence both in the science and technology behind the employed forensic science, and in the administration of justice as a whole.

In most western democracies, forensic DNA laboratories are accountable to the judiciary and are often state institutions precisely for this reason. In cases where transparency, methods or findings are questioned by the public, defendants, or even the prosecutor, most legal systems allow for the review of evidence by independent experts. These experts are brought into the judicial process and granted access to evidence and reports, either for review processes or for re-examinations/-testing of evidence and/or samples.

The need for independent review of scientific techniques involved in DNA profiling was highlighted early on in the development of DNA evidence by the decision of the New York State Supreme Court in *People v Castro*.[38] The defendant was charged with two counts of murder in the second degree in respect of a pregnant 21 year old woman and her two-year-old daughter. The prosecution intended to prove at trial that a bloodstain on the defendant's wristwatch was the blood of the murdered woman. Judge Sheindlin found that the Lifecodes testing laboratory failed in its responsibility to perform the accepted scientific techniques and experiments capable of producing reliable results in DNA identification.[39] As a result, key DNA evidence was ruled inadmissible.

Although Castro ended up pleading guilty, the ruling on admissibility had a significant impact upon the use of DNA evidence in criminal proceedings, not just in the United States but around the world. It showed, for the first time, that DNA evidence was not infallible. It led to

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and February 2006 (Interpol, 2010), 48.

[35] Roy Beran, "The Role of the Expert Witness in the Adversarial Legal System," *Journal of Law and Medicine* 17, no. 1 (2009), 135.

[36] Michael Kirby, "Forensic Evidence: Instrument of Truth or Potential for Miscarriage?," *Journal of Law, Information and Science* 20, no. 1 (2010), 1.

[37] Schmitt et al, *Physicians for human rights*, 472.

[38] *People v Castro*, New York Supreme Court, August 14, 1989.

[39] For further discussion of the *Castro* case see, for example, Ian Freckelton, "DNA Profiling: Forensic Science under the Microscope," *Criminal Law Journal* 14, no. 1 (1990), 35.

the establishment, by Castro's defence lawyers, of the Innocence Project—an organisation that exonerates the wrongly convicted through DNA testing and reforms the criminal justice system to prevent future injustices.[40] At the time of writing, the Innocence Project has seen 349 people in the United States exonerated by DNA testing—including 20 who served time on death row—and 149 real perpetrators found.[41] The *Castro* case shows how an adversarial system in which equal access to highly qualified experts is afforded is especially well-suited for revealing limitations and weaknesses in evidence that other evaluative methods, including scientific peer review, reputation and publication, may not necessarily uncover.[42] One of the reasons for this is the power of courts to compel disclosure of what would otherwise be confidential information.[43]

Many states experiencing or emerging from armed conflict are lacking in forensic capacity and infrastructure. If a human identification effort is to go ahead it may be necessary to outsource by removing samples and/or evidence from the national jurisdiction for testing and analysis. Whilst this may result in identifications being made when they otherwise would not have been possible, it separates the DNA analysis from a local context in which it can be verified or challenged. Discrepancies between crime scene and lab can be difficult to reconcile where communication between the lab and the field, and especially surviving victims, is challenging at best.

States experiencing or emerging from armed conflict may also lack an adequate legal framework and a legal culture that is conducive to independent review. There may not be a culture of robust criminal defence or a legal aid system. Defence counsel may be hampered by an inability to review substandard crime scene processes and documentation or to request access to physical evidence. There may not be a pool of independent forensic experts or a culture of independent expert opinion in the legal system. Corruption may be significant. There may be no ability to protect witnesses or witness and victim privacy, something that raises additional concerns where DNA evidence is involved.

The Right to Privacy
DNA is more than just a powerful piece of evidence admitted in the criminal trial. The personal information that can be obtained from DNA "has no parallel in the history of science and raises profound questions about the protection of privacy."[44] Unlike fingerprints, DNA can reveal information about an individual and their family that goes beyond profile matching for purposes of identification. This can range from discovering personal family relationships (e.g. that unbeknownst to a father, a particular individual isn't their biological child to determining ancestry (the genetic affiliation with a particular group or population) to predispositions to particular diseases.[45] Any of this information can be used to the detriment of the individual donating their biological sample for the purposes of DNA analysis.

The concern over genetic privacy with respect to the biological sample is therefore one as to what type of DNA testing is done, what kind of analysis is performed, and what is done with the biological sample after the analysis has been completed. An important aspect of DNA profiles/ fingerprints used in human identification efforts is that they are limited to a small section of DNA, which has been proven to be unique between individuals. Other than tracking family relations, it really can't be used for much else. A biological sample can be used to extract an individual's entire genome, containing the entire set of their genetic information, but this is an entirely different

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[40] Innocence Promect, 2016, accessed March 21, 2017, www.innocenceproject.org.

[41] Ibid.

[42] Jennifer L. Mnookin, "*People v Castro*: Challenging the Forensic Use of DNA Evidence," *Journal of Scholarly Perspectives* 3, no. 1 (2007), 78.

[43] Ibid., 94.

[44] Robin Williams and Paul Johnson, "Inclusiveness, effectiveness and intrusiveness: Issues in the developing uses of DNA profiling in support of criminal investigations," *Journal of Law, Medicine and Ethics* 33, no. 3 (2005), 551, citing a submission by Liberty in the *Marper* case. See also "Intervention by Liberty," December 14, 2007, accessed May 10, 2017, https://www.liberty-human-rights.org.uk/sites/default/files/s-and-marper-v-uk-european-court-of-human-rights-2007.pdf.

[45] Khaleda Parven, "Forensic Use of DNA Information v Human Rights and Privacy Challenges," *University of Western Sydney Law Review* 17 (2013), 45-46.

process. Hence, the need to outline the exact purpose of collecting biological profiles and their disposition, what type of DNA analysis is done and how long the biological sample remains stored.

In the case of *S and Marper v United Kingdom*[46] the European Court of Human Rights found that the indiscriminate and indefinite retention of fingerprints, cellular samples and DNA profiles of individuals who were suspected, but not convicted, of offences was a breach of the applicants' right to respect for their private lives within the meaning of Article 8 of the European Convention on Human Rights. The Court held that given the nature and amount of personal information contained in cellular samples, their retention per se must be regarded as interfering with the right to respect for the private lives of the individuals concerned.[47] That only a limited part of this information is actually extracted or used by the authorities through DNA profiling and that no immediate detriment is caused in a particular case does not change this conclusion.[48] The Court observed that DNA profiles—whilst in coded form, intelligible only with the use of computer technology and capable of being interpreted only by a limited number of persons—have the capacity to provide a means of identifying genetic relationships between individuals sufficient to conclude that their retention interferes with the right to the private life of the individuals concerned.[49] The Court reiterated that it was essential to have clear, detailed rules governing the scope and application of measures, as well as minimum safeguards concerning, inter alia, duration, storage, usage, access of third parties, procedures for preserving the integrity and confidentiality of data and procedures for its destruction, thus providing sufficient guarantees against the risk of abuse and arbitrariness.[50]

Unlike DNA matches used in criminal investigations, human identification efforts require the informed consent of the donor of the DNA sample. In turn, this requires an established purpose for the biological sample collection, the subsequent DNA extraction, storage and analysis via specialized software in a database, and the final disposition of the sample and the DNA profile after an identification has been generated. The donor consent form generally details the purpose of the biological sample collection and requests permission for a donor's DNA profile and any personal information necessary for identifications to be "placed in a confidential registry or database for identification and statistical analysis."[51]

The centralization of genetic profiles in a database is necessary to perform the statistical analysis that leads to profile matches, which is done via specialized software programs made for this purpose. For verification purposes, the profile matches equally need to be compared against other personal identifying information—such as secondary means of identification. This in turn requires legal safeguards against the information and data to be used for anything else other than for identification purposes. Such safeguards set human identification databases in mass fatalities apart from criminal investigative DNA databases, and thus these safeguards guarantee that other than for identification and repatriation of remains, the information will not be used to the detriment of the donor and/or their families.

An important consideration in conflict mass fatalities is the right to truth, which may entail criminal investigations at some stage. This necessitates balancing the protection of personal and confidential data with information release, often in a context in which legal systems have collapsed and privacy and data protection laws may not be in existence.

Genetic Privacy

For the purposes of human identification efforts, genetic testing primarily relies on extracting DNA profiles from nuclear DNA of a person's biological sample. The particular genetic characteristics that are analyzed are called "Short Tandem Repeats" (STRs). STR DNA profiles consist of a series of

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[46] *S and Marper v United Kingdom* (European Court of Human Rights, Grand Chamber, Application Nos 30562/04 and 30566/04, 4 December 2008).

[47] Ibid., 73.

[48] Ibid., 73.

[49] Ibid., 75.

[50] Ibid., 99.

[51] National Institute of Justice, *Mass Fatality Incidents: A Guide for Human Forensic Identification* (Washington, DC: National Institute of Justice, 2005), 65.

numbers and do not contain any relevant information regarding genetic indicators of disease. On their own, these DNA profiles can only be used to establish paternity and kinship relations among relatively close family members. A second type of DNA analysis used in determining human identity via family relationships is mitochondrial and Y-chromosome testing. This type of DNA is more useful in making linkages to inheritable diseases, but this is dependant on known diseases existing in ancestors. This again doesn't identify actual inherited genes which are associated with particular diseases. None of these tests even examine areas of the DNA strand that have been demonstrated to code for diseases, nor do the laboratory processes use methods to isolate genes relevant to diseases or other genetic characteristics that are linked to behavior or ethnicity. The only discrimination that might arise is one that is based on known personal information of someone identified via DNA profile matching, not on what is visible in the string of numbers that represents their DNA profile.

There is the potential in examining what are called Single Nucleotide Polymorphisms (SNPs) in DNA to determine things such as inherited genetic traits. Due to the ability of laboratories to extract DNA from degraded biological samples, this has begun to play an important role in human identification efforts. Using the appropriate laboratory process, this type of DNA extraction can be used to determine things such as inheritance of diseases, skin and eye color, and their physical characteristics. However, for human identification purposes, the information that is extracted by the laboratory and then examined contains no real personal or private information about the donor.[52] The laboratory extraction processes used in SNP DNA analysis for human identification purposes, much like STR DNA analysis, do not even isolate information that might be considered information relating to personal information of the donor of the biological sample. Such information simply isn't necessary.

DNA profiles used in human identification efforts are different from genome sequencing, which is the actual 'printout' of the entire genetic strand of a person. DNA profiles look at small portions of a person's DNA, and particularly at those portions that do not contain any information relevant to things such as what is expressed in a person's genome. From an identity perspective, they only become important when they are related to either the parents, or close family members. Association with disease, or other genetic traits (for example, eye or hair color, specific behaviors) cannot be made based on these genetic profiles alone. In other words—the genetic profile extracted for human identity testing in nuclear, mitochondrial, Y-chromosome, and SNP DNA analysis in and of itself does not yield or look at any genetic information that could be used to discriminate against the individual.

Such DNA profiles are only really useful to establish kinship between parents and a child, or between a person and their closer relatives, e.g. brothers/sisters, or even uncles/aunts and possibly cousins. The series of numbers that represent a single DNA profile doesn't by itself provide any relevant personal information. The DNA profile only becomes relevant when it provides information on relationships to people that are known to exist—on whom there are civil identification records tied to an existing person. Any information that could be used to discriminate is based on the knowledge of such relationships. Knowledge of such relationships can be used for discriminatory purposes, for example ethnic profiling. A good example is when genetic information reveals unknown relationships, such as a child not being biologically related to the father. Uncontrolled release of such information can have devastating effects, the worst being in contexts where adultery is considered a crime and punished as such, and in some cases could lead to so-called honor killings. The responsibility to protect people from such devastating effects is great and provides the basis for the argument to securely limit access to DNA profile databases and their analytical results.

Genetic Privacy at the International Commission on Missing Persons

The International Commission on Missing Persons (ICMP) was established in 1996 on the initiative of then US President Bill Clinton with the aim of securing the cooperation of governments to

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[52] Bruce Budowle and Angela Van Daal, "Forensically relevant SNP classes," *BioTechniques* 44, no. 5 (2008).

locate missing persons in the former Yugoslavia.[53] ICMP has since emerged as an impartial global organization undertaking individual human identifications in a variety of contexts around the world.

In one of its information sheets the organization states that ICMP's mandate and work is separate and distinct from that of criminal justice institutions.[54] The organization nevertheless recognizes:[55]

> ICMP's policies provide that personal data must be adequate, relevant and not excessive in relation to the purposes for which it is collected and processed. In addition, it may not be retained longer than necessary. It is clear, however, that in missing persons' processes generally, and in the context of war crimes, crimes against humanity and genocide in particular, forensic evidence may have to be kept for a greatly extended period of time.

Obtaining data subject consent thus requires implementing a commensurate measure of protection. Such protections have been provided through granting ICMP, its premises, data processing systems and communications privileges and immunities under domestic and international law.

ICMP extends the protection of the genetic profiles to denying donors access to their own profile for uses other than identification purposes.[56] Furthermore, genetic profiles are encrypted to protect a donor's genetic privacy. In addressing criminal investigative needs, the organization states that it does not make personal information in its possession available without the consent of family members of missing persons.[57] If necessary, however, ICMP may provide a DNA profile or other personal information to a public authority mandated to address missing persons cases for which the DNA sample is being requested, provided that public authority observes adequate standards of data protection with regard to genetic and other personal data and provides credible assurance that it will not use the data for purposes other than those for which it has been provided to ICMP without the donor's consent.[58]

The ICMP bases its justification and need for genetic privacy on the argument that genetic testing may identify a disease for which there is no cure or find a gene mutation which may cause or increase the risk of a disorder and that this information could fall into the hands of a wrong person. The spectre of genetic discrimination, which could be based on knowledge of such gene mutations, is also raised. By this line of argument, the ICMP asks donors to release the organization "from any obligation to provide you or any other party with the results of genetic analysis performed by ICMP."[59]

The argument that concerns for genetic privacy vis-a-vis information contained in a person's genome does not apply when it comes to DNA analysis in human identification efforts. Where it does apply is in the disposition of a person's biological sample, from which a person's entire genetic sequence could be obtained. In the context of human identification efforts this isn't done and isn't necessary. It is therefore important that a clear distinction be made between what information can be gained from DNA profiles generated for human identification purposes and what type of DNA extraction is done with the biological sample. The discussion of the right to privacy in this context is more relevant to the disposition and potential use of the biological sample, rather than the actual DNA profile.

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[53] Jeremy Sarkin, Lara Nettelfield, Max Matthews, and Renee Kosalka, *Bosnia and Herzegovina, Missing Persons from the Armed Conflicts of the 1990s: A Stocktaking* (Sarajevo: International Commission for Missing Persons, 2014), 34.

[54] International Commission on Missing Persons, "DNA Genetic testing and processing information sheet," February 3, 2016, accessed March 20, 2017, http://www.interno.gov.it/sites/default/files/allegati/icmp_st_ls_299_4_doc-scheda_dna.pdf.

[55] International Commission on Missing Persons, "Data Protection," 2017, accessed March 20, 2017, http://www.icmp.int/the-missing/approaches-and-standards/data-protection/.

[56] International Commission on Missing Persons, *DNA Genetic testing and processing information sheet*.

[57] International Commission on Missing Persons. "DNA Reports Guide," December 16, 2010, accessed March 20, 2016, https://www.icmp.int/wp-content/uploads/2015/04/icmp-fsd-dna-50-2-doc.pdf.

[58] International Commission on Missing Persons, *DNA Genetic testing and processing information sheet*.

[59] Ibid.

Changing the Genetic Privacy Discourse
The discourse around genetic privacy—and what is perceived as genetic privacy—needs to be closely examined and questioned when it is used to justify genetic databases being given immunity from judicial inquiry. Our intent in calling for such examination is not to diminish the need for witness and family members' protection and privacy. This is imperative. Rather it is to ensure that the rights of witnesses and family members are balanced with the rights of an accused person to a fair trial, a necessary component of which is the ability to test the evidence against them. In war crimes trials this basic principle takes on increased importance as the perception of bias by the court or tribunal can lead to accusations of victors' justice and further instill existing divisions within the affected society. A proper legal framework and use of legal mechanisms designed to balance victim and witness privacy concerns with prosecutorial disclose obligations could prevent the abuse of such human identification databases. Although this won't always be feasible, it should not be assumed that a country is incapable and/or unwilling to provide such mechanisms.

The key to matching DNA profiles is the database and its analytical capability (software) to properly identify kinship relations between individuals to the point where a positive identification can be made. As outlined previously, this needs to be verified via the antemortem data which is collected in the field. Separating the database and its analytical capability from the local jurisdiction therefore runs the risk of leading to miscommunications that can complicate any discrepancy issues that might arise. This can result in DNA matches made public before they are verified by the antemortem information, or simply because biological sample collection in the field is inadvertently contaminated, or samples switched, leading to DNA matches which aren't correct (misidentification) or delays and miscommunication in informing families about identifications that have been made. This is particularly pertinent in environments where the language used between those that control the DNA profile database and analysis is different from the one spoken in the local jurisdiction. DNA human identification databases start with a few cases, to which more are added over time, depending on the scope of the mass fatality. Starting such a database outside of a national jurisdiction may introduce a de-facto situation where the ownership of such a database and its software is not legally defined, resulting in a national effort that has no jurisdiction over the database and the necessary software. Since the DNA profile on its own renders little information about a person, it is much more important to determine who controls the analysis of the DNA samples stored in the database early on in the human identification process.

The International Legal Framework for the Identification of the Missing and Repatriation of the Dead

The duty to search for the dead was first codified in respect of international armed conflicts in the 1929 Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armies in the Field.[60] It was subsequently codified in respect of international armed conflicts in the Geneva Conventions of 1949 and in respect of non-international armed conflicts in Additional Protocol II to the Geneva Conventions.[61]

The Geneva Conventions of 1949 prescribe examination of the bodies, if possible by medical examination, with a view to confirming death, establishing identity and enabling a report to be

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[60] Art. 3, opened for signature 27 July 1929, 118 LNTS 303, entered into force 19 June 1931.

[61] Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, Art. 15, opened for signature 12 August 1949, 75 UNTS 31, entered into force 21 October 1950 ("First Geneva Convention"); Geneva Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea, Art. 18, opened for signature 12 August 1949, 75 UNTS 85, entered into force 21 October 1950 ("Second Geneva Convention"), Geneva Convention relative to the Protection of Civilian Persons in Time of War, Art. 16, opened for signature 12 August 1949, 75 UNTS 287, entered into force 21 October 1950 ("Fourth Geneva Convention"), Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts, Art. 8, opened for signature 8 June 1977 1125 UNTS 609, entered into force 7 December 1978 ("Additional Protocol II"). See also International Committee of the Red Cross (ICRC), *Customary International Law* (ICRC), Rule 112, accessed March 20, 2017, https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_cha_chapter35_rule112. State practice establishes this rule as a norm of customary international law applicable in both international and non-international armed conflicts.

made.[62] State practice also establishes a customary rule that parties to an international armed conflict must endeavour to facilitate the return of the remains of the dead (and their personal effects) upon the request of the party to which they belong, or their next of kin.[63] There is growing recognition of this rule in the context of non-international armed conflicts. Articles 33 and 34 of Additional Protocol I outline obligations with respect to missing persons and remains of deceased persons respectively, with the implementation of those obligations by States, parties to the conflict and international humanitarian organizations to be "prompted mainly by the right of families to know the fate of their relatives." These words, found in Article 32 of Additional Protocol I, represent the first codification of the right to the truth.

The Right to the Truth
The right of families to know the truth surrounding the fate of a missing family member codified in Article 32 of Additional Protocol I to the Geneva Conventions[64] is recognised as a norm of customary international law applicable to all parties in both international and non-international armed conflicts.[65]

In the human rights context, the right to the truth is most often invoked in relation to enforced disappearances, one of the elements of which is a refusal to acknowledge the deprivation of liberty or concealment of the fate or whereabouts of the disappeared person, placing that person outside the protection of the law. The International Convention for the Protection of All Persons From Enforced Disappearance[66] expressly provides for the right of any victim, the definition of which includes relatives of a disappeared person, to know the truth about the circumstances of an enforced disappearance and the fate of a disappeared person.[67]

International human rights bodies have extended the right to the truth to the circumstances of serious human rights violations in general. In its study on the right to the truth, the OHCHR concluded that:

> The right to the truth about gross human rights violations and serious violations of human rights law is an inalienable and autonomous right, linked to the duty and obligation of the state to protect and guarantee human rights, to conduct effective investigations and to guarantee effective remedy and reparations. This right is closely linked with other rights and has both an individual and societal dimension and should be considered as a non-derogable right and not be subject to limitations.[68]

The suffering experienced by the families of the disappeared by a refusal to provide them with information about the whereabouts or fate of a disappeared person has been recognised as

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[62] First Geneva Convention, Art. 17; Second Geneva Convention, Art. 20; See also Geneva Convention relative to the Treatment of Prisoners of War, opened for signature 12 August 1949, 75 UNTS 135, entered into force 21 October 1950, Art. 120 ("Third Geneva Convention"); Fourth Geneva Convention, Art. 129.

[63] ICRC, *Customary International Law*, Rule 114, accessed March 20, 2017, https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule114. See also First Geneva Convention, Art. 17; Third Geneva Convention, art 120, Fourth Geneva Convention, Art. 130.

[64] Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts, opened for signature 8 June 1977, 1125 UNTS 3, entered into force 7 December 1978 ("Additional Protocol I").

[65] ICRC, *Customary International Law*, Rule 117, accessed March 20, 2017, https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule117.

[66] Opened for signature 6 February 2007, 2716 UNTS 3, entered into force 23 December 2010.

[67] Preamble, Arts. 18 and 24(2).

[68] OHCHR, *Promotion and Protection of Human Rights: Study on the Right to the Truth*, UN Doc E/CN.4/2006/91, 8 February 2006. See also: Diane Orentlicher, *Report of the independent expert to update the Set of Principles to combat impunity*, Addendum, "Updated set of principles for the protection and promotion of human rights through action to combat impunity," UN Doc E/CN.4/2005/102/Add.1, 8 February 2005, which updates the "Joinet principles": Un Doc E/CN.4/Sub.2/1997/20/Rev.1, Annex II.

a human rights violation by regional human rights courts.[69] In *Croatia v Serbia*,[70] the International Court of Justice held that "the psychological pain suffered by the relatives of individuals who have disappeared in the context of an alleged genocide, as a result of the persistent refusal of the competent authorities to provide the information in their possession which would enable these relatives to establish with certainty whether and how the persons concerned died, can in certain circumstances constitute serious mental harm within the meaning of Article II (b) of the Convention."[71] The ICTY has also held that the suffering experienced by family members in not knowing what had happened to their missing family members in the context of genocide itself amounts to serious mental harm as an act of genocide.[72]

The right of individuals, families and communities to know the truth about the identity of victims and the circumstances of mass fatalities is integral to any human identification effort. In countries experiencing or emerging from armed conflict it also provides the foundation for any legitimate transitional justice effort. The role of the State is integral as it is the State that makes the ultimate decision to identify an individual and confirm their death. Any foreign actors—whether private service providers, NGOs or UN auspiced bodies—need a clear exit strategy that includes developing the necessary conditions for handover of human identification operations to local authorities at some point. Not addressing such an exit strategy at the onset of a human identification effort in conflict-affected and post-conflict settings runs the risk of counteracting any national efforts to address the right of families to know the truth surrounding the fate of missing family members. Divorcing human identification efforts from the right to truth can feed into political efforts that are discriminatory against certain groups or that altogether ignore truth seeking, factors which may contribute to ongoing cycles of violence.

The Right to the Truth and the Role of NGOs
Despite the early codification of the obligation to search for and repatriate the dead in the context of international armed conflicts, the issue of repatriation of remains in the context of civil wars and following repressive regimes has been primarily advanced by civil society movements in affected societies.

States experiencing or emerging from armed conflict face many challenges, not least the re-establishment of order and the rule of law. Such states rarely if ever, have the necessary forensic infrastructure in place to deal with the mass fatalities that have occurred. Even where capacity does exist, governments may be unwilling to support a human identification effort due to its own involvement in crimes, perpetrators continuing to occupy positions of power, or a belief that addressing past crimes will destabilise a transition to peace.

In many states experiencing or emerging from armed conflict or periods of egregious human rights violations witnesses won't come forward to government authorities to have their testimonies recorded out of fear of reprisals by the perpetrators, who often remain in power and benefit from a culture of impunity. Lists naming missing persons, along with accounts of massacres and summary executions by witnesses, are sensitive information that, if released openly, could lead to reprisals against victims' families and their communities. In such circumstances it is not uncommon for NGOs who gain the trust of witnesses to emerge as an alternative repository of witness accounts, as well as the safeguard of data and witness privacy.

Family associations in affected communities were among the first to collect and safeguard such information. They also became the focal and entry point for the forensic NGOs that were established

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[69] *Kurt v Turkey*, European Court of Human Rights, Chamber, Application No 24276/94, May 25, 1998, para. 134; *Bazorkina v Russia*, European Court of Human Rights, Chamber, Application No 69481/01, July 27, 2006, para. 146. See also *Velásquez Rodríguez v Honduras,* Inter-American Court of Human Rights (Ser C) No 4, July 29, 1988.

[70] *Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Croatia v Serbia)* International Court of Justice, February 3, 2015.

[71] Paras. 356 and 160.

[72] *Prosecutor v Karadžić*, Trial Chamber Judgment, March 24, 2016, IT-95-5/18-T, para. 5664-5665; *Prosecutor v Blagojević and Jokić,* Trial Chamber Judgment, January 17, 2005, IT-02-60-T, para. 653; *Prosecutor v Popović*, Trial Chamber Judgment, June 10, 2010, IT-05-88-T, para. 846.

in the late 1980s and early 1990s in Latin America. Some of these NGOs, including the Argentine and Guatemalan Forensic Anthropology Teams,[73] earned the trust of these family associations and gained legitimacy. At the time, the principal means of identification rested on methodologies rooted in forensic anthropology. Positive identifications, if they were even possible, were based on the comparison of body landmarks found in the skeletal remains with the antemortem data that had been collected from victims' families and witnesses.

By effectively privatizing forensic exhumations and identifications, some actors and victims' families undoubtedly felt that their right to truth was addressed without the need to wait for the state to lead such efforts. The NGOs could provide immediacy in responding to repatriating the dead and the right to truth where the state could not. Privatisation may also provide a means to empower victims of human rights violations who are advocating for the truth to be told in a climate of impunity in which official acknowledgement is not forthcoming. In Spain the government itself abrogated its obligations under international human rights law and through the Law on Historical Memory effectively privatised human identifications, granting subsidies to individuals and NGOs willing to perform the search, identification and exhumation of mass graves. However, State granting of subsidies to NGOs to perform these activities cannot replace the State's duty to investigate disappearances and offer integral reparations to the victims.[74] Further, the law remains silent as to what happens post-exhumation when there is a need for identification with families generally left to cover the expenses with their own resources, although in some cases subsidies have also been used to pay these expenses.[75]

Undoubtedly NGOs are an important actor in the human rights and human identification landscape. However, human rights, including the right to the truth, remain the overall responsibility of the State. The work of private DNA labs to match profiles and identify a set of remains in that way cannot fulfil the right to the truth, the essence of which is State acknowledgment of what happened. The DNA lab can provide a positive DNA match but it can't tell you what happened, when, how, why, or by whom. And it can't formally acknowledge the truth of what happened. Even if combined with credible NGO documentation efforts, state acknowledgement is key to the right to the truth. Most importantly though, where human rights NGOs are taking the lead in doing this work, such as the EAFG/FAFG in Guatemala, they are located within the host country's jurisdiction and work within the national legal system.

Human Identifications in Armed Conflicts: Case Studies
In this section we present a number of case studies illustrating the above-mentioned challenges of conducting human identification efforts in countries experiencing or emerging from armed conflicts.

Guatemala
The first mass grave exhumations in Guatemala were conducted in 1992 under the then EAFG. The objective was to exhume and document the suffering of the victims of the country's civil war in the 1980s, many of who were buried in mass graves. The primary drivers were family associations, who wanted the victims' remains repatriated, and above all, to have the truth told. These first exhumations in the Department of El Quiché of sites at Chontolá and San José Pacho Lemoa were carried out in accordance with judicial orders and the under the direction of the regional medical examiner of the Department of El Quiché in 1992, Dr Garcia de Crocker and her assistant, Flavio Montufar. Dr Crocker was particularly supportive of a forensic anthropology team, as she wasn't receiving any support from the central government in Guatemala City. This relationship with the medical examiner in El Quiché was the foundation that led to the formation of EAFG with funding

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[73] Equipo Argentino de Antropología Forense (EAAF) and the Equipo de Antropología Forense de Guatemala (EAFG), which in 1997 became the Fundación de Antropología Forense de Guatemala (FAFG).

[74] Patricio Galella, "Privatising the search and identification of human remains: the case of Spain," *Human Remains and Violence* 1, no. 1 (2015), 62.

[75] Ibid.

received from the American Association for the Advancement of Science's Human Rights and Science Program.

To document what had happened and lend credibility to witness statements taken by the team during the antemortem interviews with surviving family members, it was necessary for the EAFG to link the victims in the mass graves to the survivors and their accounts. There was also a need to individually identify human remains, not only to repatriate them to their families, but also to provide evidence that specific individuals had been killed in the incidents that were reported by witnesses. This in turn required witnesses to trust the EAFG to collect, store, and analyse this information while protecting the data from misuse.

In the early 1990s positive identifications of individual human remains with the help of DNA were not possible. The technology was just beginning to develop and was inaccessible in countries like Guatemala. Compounding any human identification effort was the fact that the victims in Guatemala were generally from a population that had very limited access to healthcare and as a consequence there were no dental X-ray records or other medical records on file to assist in the identification of remains. Following the exhumations, very few positive identifications were achieved by the EAFG on the basis of comparisons of antemortem interview data from surviving family members and the data derived from the postmortem forensic examinations.

Positive identifications were limited to a comparison of the biological profile established by forensic anthropologists in the lab with the antemortem information, taking into account secondary means of identification. They were relatively few and limited to those contexts where the burial of those that had been killed as a result of human rights violations were relatively controlled. That is, surviving family members were able to identify the mass graves and testify to the identities of those in the grave as they often had buried the victims themselves. At that point, biological profiles (i.e. age, sex, stature, handedness, individual dental/medical traits) were used to distinguish individuals that had been reported in that grave. If these biological profiles varied sufficiently to distinguish between the individuals that were exhumed from the grave, the antemortem data and secondary means of identification (e.g. description of the burial, clothes worn by victims at the time of burial, etc.) were justification enough to generate a positive identification. Even though these deaths by no means occurred under controlled circumstances, the identification process was based on the concept that the context of the mass grave was sufficiently controlled by witness statements in order to allow for positive identifications without primary means of identification.[76] Based on this methodology, some positive identifications were generated by EAFG for the mass graves exhumed in the 1990s. Many of the exhumed remains though could not be identified this way and were repatriated to their communities without identification for communal burial. These communal burials allowed communities to grieve, to bury their dead with dignity and also served as a form of memorializing the truth as documented by the NGO team of forensic anthropologists and archaeologists.

The Guatemalan experience highlights the importance of access to surviving witnesses and family members and gaining their trust that the information they provided wouldn't be used against them by the perpetrators, most of which were free and remained in power. EAFG established itself as a forensic support NGO to the Legal Medicine Department and its staff were judicially appointed as experts for the families requesting the exhumation of the remains of their loved ones. To those involved, it was clear that truth and justice could only be achieved within a judicial framework, even if this meant working within a corrupt judicial system that was skewed towards maintaining silence about the crimes of the former regimes that continued to hold military power in the country. From the start, those that founded EAFG believed that working within the judicial system would be key to any future trials.

Today, FAFG's experts regularly testify in domestic trials in Guatemala. Key to the organization's evolution has been its ability to build upon existing levels of trust with victims' families and maintain ownership of the database and analytical software enabling them to produce DNA matches and positive human identifications within a national investigative and legal framework.

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[76] This would include a list of the dead in a mass grave, sufficient variety in biological profiles reported in antemortem data (i.e. age, sex, stature, handedness, dental/medical traits), and a description of clothing worn at burial.

The Former Yugoslavia

Unlike Guatemala, the armed conflict in the former Yugoslavia, perhaps due to its geographical location in Europe, garnered international attention. On October 6, 1992 the UN Security Council in Resolution 780 established a Commission of Experts to examine and analyse information gathered with a view to providing the Secretary-General with its conclusions on evidence of grave breaches of the Geneva Conventions and other violations of international humanitarian law committed in the territory of the former Yugoslavia.[77] Physicians for Human Rights (PHR) provided a team of international forensic experts, including the first author, to the Commission, whose work was to inform the nascent International Criminal Tribunal for the former Yugoslavia (ICTY).

The ICTY was established under Chapter VII of the UN Charter in May 1993 and empowered to prosecute persons responsible for serious violations of international humanitarian law committed in the territory of the former Yugoslavia since 1 January 1991. The tribunal exercises jurisdiction over grave breaches of the Geneva Conventions of 1949, violations of the laws or customs of war, genocide and crimes against humanity.[78]

Over five years from 1996-2001, the ICTY investigated and exhumed a number of mass graves. These investigations were primarily focused on the gathering of evidence necessary to prosecute war crimes, crimes against humanity and genocide. For ICTY investigators, the group identity of victims was important to establishing the elements of crimes against humanity and genocide. Evidence of the identity of individual victims was considered of lesser importance than the evidence necessary to establish the "broad pattern or practice of the commission of such crimes for reasons of political, ethnic, or religious persecution."[79] Mass grave sites were exhumed on the basis of their link to an existing indictment, or ongoing investigation where it was felt an indictment would be issued.[80] There was little consideration given to understanding the enforcement of humanitarian law as one aspect of a larger project of healing the psychological wounds resulting from armed conflict.[81] As a result, many families were denied information about their loved ones, not because it was unascertainable, but because investigations were handled improperly.[82]

PHR carried out the first exhumation for the ICTY in the Srebrenica area in July of 1996. Early on though, PHR recognized the need for scientifically sound identification of those that were exhumed in order to address the clamoring of families searching for the missing—something that the ICTY wouldn't address. In addition to its obligations to provide forensic expertise to the Tribunal, PHR began compiling an antemortem database of suspected victims in Srebrenica. The first identifications of Srebrenica victims were made in 1997, following which the database effort was expanded to include information from missing persons elsewhere in Bosnia. These identifications were supported by PHR's antemortem data base effort, using mitochondrial DNA analysis to confirm cases where antemortem wasn't sufficiently conclusive.[83] By 1998 about 30 identifications had been carried out in this manner.[84]

This first identification effort driven primarily by local forensic pathologists was integrated into ICMP's operations in 1999. In November 2001, ICMP obtained its first DNA match leading to an identification of a set of remains. Prior to that, identifications were primarily made utilising "traditional" methods of anthropological examinations, visual inspection of remains by family

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[77] United Nations, *Final Report of the Commission of Experts Established Pursuant to Security Council 780,* May 27, 1994, UN Doc. S/1994/674.

[78] United Nations, Statute of the International Criminal Tribunal for the former Yugoslavia, May 25, 1993, UN Doc S/RES/827.

[79] Aryeh Neier, *War Crimes: Brutality, Genocide, Terror, and the Struggle for Justice* (New York: Random House, 1998), 17.

[80] Admir Jugo and Senem Skulj, "Ghosts of the past: The competing agendas of forensic work in identifying the missing across Bosnia and Herzegovina," *Human Remains and Violence* 1, no. 1 (2015), 43.

[81] Jose Pablo Baraybar, Valerie Brasey and Andrew Zadel, "The Need for a Centralised and Humanitarian-based Approach to Missing Persons in Iraq: An Example from Kosovo," *The International Journal of Human Rights* 11, no. 3 (2007), 266.

[82] Ibid., 269.

[83] Laurie Vollen, "All That Remains: Identifying the Victims of the Srebrenica Massacre," *Cambridge Quarterly of Healthcare Ethics* 10, no. 3 (2001), 339.

[84] Ibid., 339.

members, witness interviews and the comparison of medical and dental records. As of 31 July 2014 just under 23 000 identifications had been made with 14 792 being made through DNA-assisted methods and a further 8192 being made through "traditional" methods.[85]

In any human identification effort there is a need for a robust security, privacy and evidentiary framework in order to protect data, DNA profiles, biological samples and safeguard victim and witness information. This is a challenge in any context, but particularly challenging in states experiencing or emerging from armed conflict where perpetrators may still be in power, were impunity may still reign, and where the necessary infrastructure, resources, capacity and funding are lacking. In Bosnia, as in many states experiencing or emerging from armed conflict, there was no domestic legal framework governing the use of DNA evidence. Instead, the State used an international agreement with the ICMP "to compensate for a gap in domestic capacity by assigning a public investigative function to an international public organization capable of performing that function."[86]

The ICMP's efforts to ensure data protection and safeguard the privacy of witnesses and families led to the establishment of unprecedented levels of immunity in separate agreements with the Council of Ministers of Bosnia and Herzegovina (1998)[87] and the Government of Croatia (2002).[88] The Headquarters agreement provides immunity for property, assets, and staff of the ICMP from "every form of legal and administrative process, except insofar as in any particular case the ICMP has expressly waived its immunity." [89] It also provides for the inviolability and immunity of ICMP premises, property and assets from "search, requisition, confiscation, expropriation, and any other form of interference, whether by executive, judicial, administrative or legislative action."[90] Practically, this also meant that biological samples and profiles became the property of the ICMP as a means to protect witness information and data. Only the ICMP could decide on whether information was to be shared with authorities or not. Compliance with writs such as a subpoena compelling production of material or witness attendance to give evidence was subject to the ICMP waiving their immunity. In other words, the ICMP received diplomatic status as a technical and scientific human identification operation. For a DNA laboratory or human identification effort, this was unprecedented.

Radovan Karadžić challenged ICMP's identification methodology and approach to safeguarding data and privacy during his trial on genocide, war crimes and crimes against humanity charges at the ICTY. In determining the number of dead in the Srebrenica mass graves the Chamber relied heavily upon ICMP's DNA identification data. This was an important part of the Chamber's assessment as to whether the intent to destroy at least a substantial part of a particular group required for genocide could be inferred from the factual circumstances.[91] Although there is no numeric threshold to be reached for mass killings to constitute genocide,[92] and what is

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[85] Sarkin et al, *Bosnia and Herzegovina,* 11. These identifications reportedly represent around 70% of those missing as a result of the armed conflict: 21.

[86] See International Commission on Missing Persons, "Bosnia and Herzegovina," June 18, 2014, accessed March 21, 2017, https://www.icmp.int/where-we-work/europe/western-balkans/bosnia-and-herzegovina/.

[87] International Commission on Missing Persons, "Headquarters Agreement between the International Commission on Missing Persons and the Council of Ministers of Bosnia and Herzegovina," April 26, 1998, accessed March 21, 2017, http://www.icmp.int/wp-content/uploads/2014/08/hq-agreement-with-bih-mofa.pdf.

[88] International Commission on Missing Persons, "Agreement between the International Commission on Missing Persons and the Government of the Republic of Croatia regarding the status of the International Commission on Missing Persons office in the Republic of Croatia," September 3, 2002, accessed March 21, 2017, http://www.icmp.int/wp-content/uploads/2014/08/agreement-icmp-roc.pdf.

[89] ICMP Headquarters Agreement, Art 3.

[90] Ibid., Art 4.

[91] *Prosecutor v Krstić,* Appeals Chamber Judgment, April 19, 2004, IT-98-33-A, paras. 8, 12, 34; *Draft Code of Crimes against the Peace and Security of Mankind with Commentaries* in *Report of the International Law Commission on the work of its forty-eighth session 6 May – 26 July 1996* (UN Doc A/51/10) Article 17, Comment (8).

[92] *Prosecutor v Semanza,* Trial Chamber Judgment, May 15, 2003, ICTR-97-20-T, para. 316; *Prosecutor v Stakić,* Trial Chamber Judgment, July 31, 2003, IT-97-24-T, para. 522.

substantial can also be measured qualitatively,[93] establishing the numeric size of the targeted part of the group is the necessary and important starting point for considering whether or it constitutes a "substantial part."[94]

Over a number of years Karadžić unsuccessfully sought access to ICMP's database in full, or, in the alternative, the exclusion of all of ICMP's DNA analysis. While the Chamber agreed that Karadžić should be able to engage his own DNA expert and run DNA identification tests similar to those conducted by ICMP for the purposes of checking the accuracy of ICMP's identifications and challenging the evidence, ICMP refused to provide the database without obtaining the consent of the affected families, a process that would take a significant amount of time given the number of samples. An agreement by which Karadžić would have access to 300 cases fell through after the family members of 14 of these 300 victims refused to consent to their sample being disclosed. The Chamber refused to issue a binding order or subpoena to the ICMP compelling it to produce the material relating to those 14 cases on the grounds that the sample of 286 cases was sufficient for testing ICMP's results and challenging the evidence of the Thomas Parsons, ICMP's Director of Forensic Science.[95]

Karadžić fought a similar battle over 11 tendered documents provisionally admitted under seal during Parsons's evidence.[96] The Prosecution argued that this was necessary on privacy grounds to protect the genetic information of the alleged victims and their family members, as well as their genetic relationships or lack thereof; prevent the public from knowing that certain family members had participated in the ICMP DNA identification process as they might not want this disclosed; and remove any possibility that family members may find out about the deaths of their relatives through the trial, as it appeared that several DNA matches that had been made years earlier had not led to family notifications at the time of the hearing.[97] The Prosecution also argued that family members had become "unwitting witnesses" to the proceedings by donating their genetic material and were therefore entitled to the protections afforded victims and witnesses under Rule 75 of the Rules of Procedure and Evidence.[98] The Chamber did not accept that family members had become "unwitting witnesses," however, it held, citing *S and Marper*, that in light of "its highly sensitive and personal nature" the information relating to the genetic material of the alleged victims—extending to that of their family members—should be kept out of the public domain, if not under Rule 75, using the discretion afford the Chamber under Rule 54. The Chamber dismissed as "speculative at best" the Prosecution's submission that some family members might not want it known that they had participated in the DNA identification process.[99] Further, the argument that family members should not find out from the proceedings that their relatives are dead needs to be assessed on a case-by-case basis.[100] Where matches were made several years ago, the Chamber found it reasonable to assume that family members would have been informed of the death.[101] The Chamber ordered the unsealing of seven exhibits containing no genetic data and ordered the prosecution to redact the remaining documents in dispute for genetic data and then tender them.[102]

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[93] For example, an intent to destroy the most representative members of the targeted community may be significant enough to have an impact on the group as a whole: *Prosecutor v Krstić,* Appeals Chamber Judgment, April 19, 2004, IT-98-33-A, para. 8; *Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosnia and Herzegovina v Serbia and Montenegro),* Judgment, ICJ Reports 2007, 43, para. 198; *Prosecutor v Jelisić,* Trial Chamber Judgment, December 14, 1999, Case No IT-95-10-T, para. 82. See also *Prosecutor v Tolimir.* Appeals Chamber Judgment, April 8, 2015, IT-05-88/2-A, 263.

[94] *Prosecutor v Krstić,* Appeals Chamber Judgment, April 19, 2004, IT-98-33-A, 19 April 2004, para. 12. See also para. 15. Cited with approval in *Prosecutor v Popović,* Appeals Chamber Judgment, January 30, 2015, IT-05-88-A, para. 493; *Prosecutor v Tolimir,* Trial Chamber Judgment, December 12, 2012, IT-05-88/2-T, para. 749.

[95] *Prosecutor v Karadžić,* Decision on the Accused's motion to exclude DNA evidence, Trial Chamber, April 16, 2013, IT-95-5/18-T, para. 7.

[96] Ibid.

[97] Ibid.

[98] Ibid.

[99] Ibid., para. 9.

[100] Ibid., para. 11.

[101] Ibid., para. 15-17.

[102] Ibid., para. 19.

The Prosecution subsequently invoked Rule 70 of the Tribunal's Rules of Procedure and Evidence, that rule being an important rule, the purpose of which is to encourage states, organizations and individuals to share sensitive information with the Tribunal by guaranteeing protection to providers of that information and their sources.[103] The Chamber ordered further redactions in respect of personal contact information of family members of alleged victims and of all references to 118 individuals involved in the most recent round of DNA matches, who had yet to be informed of the matches.[104] The Chamber also ordered the Prosecution to liaise with ICMP and track the progress of notification of the families of these 118 individuals, with the exhibits to be reclassified as public once this has been done.[105] In its concluding remarks the Chamber expressed "serious concern" regarding the Prosecution's practices for recording and disclosure of Rule 70 material.[106]

The Karadžić case highlights a number of issues. Firstly, that some family members had not been informed of DNA matches several years after they were made is possibly indicative of a communication problem somewhere along the chain. Clear communication between all actors is essential to mitigating the risk of any discrepancies that might undermine the legitimacy of the human identification effort. Secondly, distinctions can be drawn between different types of information accrued during the human identification effort and the level of protection to be afforded to them. Thirdly, the importance of clear, consistent and implemented standards in information flows and recording between those involved in all aspects of the identification, witnesses, family members, investigators and prosecutorial bodies. This is generally important in the administration of a fair trial and for ensuring that each of the actors involved knows where they stand. In the context of a war crimes trial it takes on added importance in allaying fears of victor's justice among those who may feel that the indictment of the Accused is an indictment of their entire community. Finally, a court with jurisdiction and an appropriate legal framework is best placed to adjudicate on and balance the competing right of victims and their families to privacy with prosecutorial disclosure obligations and the Accused's right to a fair trial.

Libya

Libya's revolution began on February 15, 2011 with demonstrations by family members of the 1, 276 prisoners massacred by the Qaddafi regime in Abu Salim prison in 1996. As the protests against the regime widened, so did the crackdown against them, leading to a full scale revolution. Following the collapse of the regime, on October 23, 2011 the revolutionary authorities declared "Liberation Day" with the capture and subsequent killing of Muhammar Qaddafi.

Early on, a quest began to not only locate the remains of the massacred prisoners of Abu Salim prison, but the many other victims of Qaddafi's 40 year regime, as well as to identify the remains of those that were killed during the revolution. In December 2011, the Ministry of Martyrs and Missing (MAFMM) was established to provide support to the families of the martyrs and missing and locate and identify the remains of those reported missing. Under MAFMM two departments were established: the Department of Martyrs' Affairs and the Department of Missing Persons' Affairs. The former was tasked with supporting martyrs and their families; and the latter with collecting data and identifying the remains of the missing and distributing financial support to martyrs' families.[107]

MAFMM was tasked with establishing a DNA laboratory to aid this effort. By March 2013, when PHR published its "Libyan Human Identification Needs Assessment and Gap Analysis," the Ministry had reportedly collected family DNA reference samples for approximately 2,100 reported missing cases.[108] The number though was a reflection of those that felt comfortable reporting their

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[103] *Prosecutor v Karadžić,* Decision on the Prosecution's Motion for Partial Reconsideration or Clarification of the Chamber's Decision on the Accused's Motion to Unseal ICMP Exhibits, Trial Chamber, September 5, 2012, IT-95-5/18-T, paras. 2-3.

[104] Ibid., paras.10, 19, 22.

[105] Ibid., paras. 25, 29.

[106] Ibid., para. 70.

[107] Schmitt et al, *Libyan Human Identification,* 15.

[108] Ibid., 37.

missing loved one as a martyr, understood to be an individual, whether combatant or civilian, who had died at the hands of the Qaddafi regime. An unknown number of families who lost their loved ones fighting on the side of the Qaddafi regime did not feel able to report a missing family member due to fear of the potential repercussions of being associated with the deposed regime.

The political and social dynamics immediately after the revolution resulted in hastily and inexpert exhumations and collection of biological samples for eventual DNA analysis, often conducted extra judicially due to a breakdown of rule of law and in a political environment where existing national governmental institutions were struggling to remain relevant post-revolution. The urgency to recover and identify remains was in part due to the pressure of families seeking the repatriation of their dead and in part due to the need for the new Libyan society to honor those that had fought against the Qaddafi regime and liberated the Libyan people from its terror. A variety of ad-hoc local Missing Persons' Commissions were formed, each representing regional efforts by victim families around the major cities, such as Tripoli, Benghazi, and Misrata. The presence of unregulated local armed groups throughout the country also contributed to limiting the central government's ability to implement nationwide policies.

The dynamics surrounding the identification effort in Libya are perhaps best demonstrated by the example of what happened to the remains of those that had been killed fighting Qaddafi forces in early March 2011 in the town of Bin Jawad, close to Sirte. Initially there was a proper jurisdictional response to these deaths by the local medical examiner, who collected the remains that weren't claimed by families and reportedly kept them in a refrigerated container for four to five months in the hope of being able to repatriate them to their families. In the end, they were buried in Bin Jawad, but not before the local medical examiner had taken photographs of the bodies and their faces for identification purposes. The remains were reportedly buried in numbered graves, as the medical examiner had identified them in the photographs with the numbers to facilitate any future identifications made on the basis of facial recognition. There were reportedly 167 bodies which were assigned a number and buried.

In February 2012, political pressures on Libya's new government and MAFMM led to public demands to repatriate the unidentified remains of those killed in Bin Jawad to Benghazi, from where they reportedly originated. MAFMM had already begun collecting DNA samples and conducting exhumations at this time. After witnessing one of MAFMM's exhumations in Tripoli, a medical examiner at the Forensic Medicine Department there wrote to Libya's Prosecutor-General's Office raising concerns that these inexpertly conducted exhumations would result in damage to the remains to the extent that it would be very difficult, if not impossible, to determine cause and manner of death.[109] Regarding the early collection of DNA samples, the medical examiner raised the point that any inconsistency in collecting DNA samples would require that both exhumation and collection efforts of such samples would have to be repeated at a later time, unnecessarily raising families' expectations of speedy identification and repatriation of remains. Despite the Prosecutor-General's Office suspending one such exhumation, MAFMM continued with its efforts.

In March 2012, MAFMM oversaw the exhumation of the remains that had been reburied by the local medical examiner in Bin Jawad the previous year. The primary purpose of this exhumation was the repatriation of the unidentified remains to Benghazi. Due to the intense pressure from families and politicians alike to repatriate the remains of these martyrs, the MAFMM went ahead with the re-exhumation of these remains, despite the first author's recommendations against it. In the end, out of the 167 numbered plots, 43 of the remains were reported to have been identified during the exhumation at the gravesite and taken away by family members.

The remaining majority of the remains were then taken to Benghazi and reburied as martyrs, again in numbered plots and after MAFMM had collected biological samples for DNA analysis. The first author made MAFMM aware it was likely that visual identifications made by families at the site of the exhumation were inherently unreliable and that the possibility of misidentifications needed to be taken into account in going forward with identifying the remaining bodies.

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[109] Dr. Anwar Arbie correspondence with the Deputy General-Prosecutor's Office, February 26, 2012.

Furthermore, collecting biological samples from both families and the remains was going to lead to heightened expectations that identifications of the unidentified remains were going to happen relatively quickly thereafter. Additionally, the lack of chain of custody over the samples and the reburied remains would require confirmatory testing upon attempting the repatriation of the reburied remains. MAFMM turned to the ICMP for support, who offered to process the samples and generate DNA matches in their lab outside of Libya as a means to expedite identifications.

The possibility that biological samples were to be sent outside of Libya for DNA testing and matching purposes raised concerns among several academics and scientists in the country, amongst them a Libyan geneticist who had returned from Canada and established a DNA laboratory in Tripoli. All of these individuals had advanced degrees from leading international universities. In a letter to Libyan authorities, including the Prime Minister, the Prosecutor-General, and others dated May 31, 2012, they raised the following concerns:

- That biological samples of the Libyan population were being transferred outside of the country's control, raising concerns about the misuse of these samples and their final disposition.
- That sending the samples outside of the country would not benefit the families in that it might not make the process of identifications any more expedient than using the laboratory in Libya, especially if re-sampling/testing would be necessary.
- The elevated cost of outsourcing the DNA testing.
- Outsourcing would ignore the necessary development of Libya's own national resources in human identifications.

The signatories also recommended that MAFMM coordinate with the established DNA laboratory at the Ministry of Interior and that biological samples should not be sent abroad until the National Safety and Biological Ethics Committee had given its permission. At the time, the MoI laboratory was able to extract DNA profiles from 192 samples per day.[110] From this letter, the earlier letter of Tripoli's medical examiner regarding Bin Jawad, as well as a later stakeholder conference on April 4, 2013 on the role of truth seeking and human identifications held organised by the National Safety and Biological Ethics Committee, it was clear that Libya had the capacity and willingness to develop DNA human identification operations, as well as integrate them into the State's criminal investigation and truth seeking efforts. There certainly was no reason to exclude this expertise and infrastructure from the overall development of human identification expertise in the country, which would include developing a national database with the necessary analytical capabilities.

PHR's Human Identification and Needs Assessment also concluded that the bias at MAFMM towards those who were deemed martyrs was affecting the human identification effort in Libya. The report concluded that MAFMM's lack of cooperation with existing Libyan governmental institutions such as the Ministry of Interior, Ministry of Justice, and Prosecutor-General's Office, and with the legal framework, was detrimental to any potential criminal investigations.[111]

Despite these concerns, the biological samples were transferred to the ICMP and DNA profiles were extracted and analysed at their laboratory. The ICMP generated DNA matches were made between family reference samples and samples from the remains from Bin Jawad which had been reburied in Benghazi. On March 16, 2013 the ICMP issued a press release entitled "ICMP Submits 95 New DNA Match Reports to Libyan Authorities to Expedite Identification Efforts" in which

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[110] Dr. Ahmed Elageili Zaid, Vice Dean of Faculty of Medicine, University of Tripoli; Dr. Abdullah Masoud be Sheen; Dr. Othman Abdel Jaleel Mohamed, Head of Forensic Laboratory Supervision Committee; Dr. Muftah Abdulatti al Fitoory, Professor, Faculty of Medizine, Benghazi University; Dr. Nabeel Sabri Enattah, Head of the Biotech Center, Tripoli, letter to Head of the NTC; the Prime Minister, Minister of MAFMM, Minister of MoI, Minister of MoEH, General Prosecutor, Head of the National Scientific Research Authority; Head of the Biological Ethics Committee; May 31, 2012.

[111] Schmitt et al, *Libyan Human Identification,* 49.

they reported that they had matched 93 of the remains from Bin Jawad to families: "We hope that by expediting this process we will bring long awaited answers to families of the missing who have waited to learn the fate of their loved ones."[112] Shortly after the press release, in conversation with MAFMM leadership over the identification effort, it became clear that the remains had yet to be exhumed for repatriation.[113] Furthermore, MAFMM was uncertain about which buried remains corresponded to the samples that had been tested. As expected, their chain of custody over the numbering of the gravesite after the exhumation and transport of the bodies to Benghazi from Ben Walid was not as certain as they had thought.

The families, after having been informed about the DNA matches, were now rightfully demanding the repatriation of the remains. Even though DNA matches had been expedited, it was clear that preparations for a second round of tests hadn't been made and families were expecting the bodies to be repatriated without any additional delay. It appears that some families went ahead and exhumed numbered remains based on the ICMP matches and those that remained at the site were assigned a name to the number on the grave.[114]

What happened with the matches that were made regarding the DNA samples from the Bin Jawad case is indicative of a communications problem between what was going on in the field and the ICMP DNA laboratory. In the end, as predicted by the author at the time, there was no reliable chain of custody between the field and the ICMP laboratory that conducted the DNA analysis and matching. These problems arose from the disregarding, primarily by MAFMM, of existing national capacity, resources, and the necessary judicial framework.

Unlike many of the Latin American countries, where families distrusted their governments for good reasons, Libyans were emerging from the conflict in the hopes of that their new government would be transparent and treat everyone equally. Nor were there no capacity and resources at all in Libya, as was the case in the post-Yugoslav context. In Libya, the arguments for short term goals of expediting human identifications to satisfy victims' families demands came at expense of an inclusive, independent, transparent and credible process driven and owned by Libyan institutions themselves who were willing and capable at high levels to do so.

The Libyan case of Bin Jawad is an example of where the argument of expediting DNA assisted human identifications resulted in countering the possibility for an integrated solution within the country's transitional justice context where accountability needed to be addressed as part of a political solution. In a very real sense the MAFMM's bias towards the martyrs in the conflict led to ignoring national jurisdictional stakeholders which should have had a controlling role in any DNA assisted human identifications.

Conclusion

The emergence of human identification methods based on the comparison of DNA profiles has had a significant impact upon human identification efforts, which, prior to the advent of DNA technology, relied on traditional methods such as body landmark comparisons. States experiencing or emerging from armed conflict face a myriad of challenges, among them, how to find, identify and repatriate the dead. DNA is an important tool in human identification efforts involving large numbers of unidentified victims, but many states facing such an effort lack the necessary forensic infrastructure, capacity or legal framework.

The DNA laboratory has come to dominate many aspects of human identification efforts as information management needs to be centralized around biological sample collection, DNA laboratory extraction, and DNA database analysis through the use of specialized databases and software. The DNA profile only gains importance when it is entered into and analysed by a database and its software. Key to the overall human identification effort therefore is not so much who runs the laboratory that extracts the genetic profiles, but who owns the means to generate DNA matches.

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[112] International Commission on Missing Persons, "ICMP Submits 95 New DNA Match Reports to Libyan Authorities to Expedite Identification Efforts," March 16, 2013, accessed March 21, 2017, http://www.icmp.int/press-releases/icmp-submits-new-dna-match-reports-to-libya/.

[113] Personal communication with MAFMM staff, March 2013.

[114] Personal communication with former MAFMM staff, 2016.

Laboratory work can be outsourced, provided there are clear agreements defining exactly what type of DNA extraction is used, the purposes for which it is to be used, the circumstances in which it can be shared, and a clear framework for jurisdictional oversight and review.

The string of numbers that represent unique DNA profiles for human identification purposes in and of themselves do not relay any personal information, and at present do not contain any information other than the gender of the individual. The DNA profile only gains significance when it is compared via specialized software to other profiles in a database and then can only identify biological relationships between individuals, leading to the actual identification of the remains. This can lead to the discovery of previously unknown or unreported sensitive biological relationships—and the social and legal issues that this may entail—but can not shed any light on the ethnic, religious, or political affiliations of specific individuals or groups. In contrast, the biological sample can be used to extract a wealth of personal genetic information beyond that required for generating the DNA profile. This though is done using entirely different laboratory procedures than those applied in the extraction of a DNA profile for human identification purposes.

Key to any success in generating DNA matches, which then lead to positive identifications, are chain of custody level standards at all stages of the human identification effort, from collecting samples and antemortem data in the field to coordination with the DNA database effort and official acknowledgement of the death. The antemortem data and biological samples are collected in the field and can not be effectively separated or outsourced to a DNA database and its analytical capabilities as they are subject to national legislation and judicial responsibilities. As the Libyan example highlights—where not only the DNA profile extraction but also the DNA analysis and matching were outsourced—the argument for expediency in the case of Bin Jawad lead to uncertainties in the identification process and the repatriation of remains.

The authors maintain that human identification efforts in states experiencing and emerging from armed conflicts need to be owned by national actors within that state's jurisdiction. Human identification efforts cannot be separated from the need for an integrated solution within a transitional justice context in which accountability and the right to the truth are addressed as part of a political solution. The legitimacy and effectiveness of human identification efforts in transitional contexts depends on local engagement, knowledge, capacity and legal frameworks. Success should not be measured by number of DNA matches alone. Equally important is enabling national stakeholders with the needed scientific means—DNA database and its analytical capabilities—rather than separating them from it. Attempts to minimize delays at the expense of building local knowledge and skills, as well as developing the necessary legal frameworks, may risk undermining the legitimacy of the human identification effort. Whilst outsourcing DNA matching has undoubtedly led to positive identifications in some cases where they otherwise might not have occurred, in the absence of local ownership and enabling, it is likely to increase the myriad of political, legal, and social challenges faced by states experiencing or emerging from armed conflict.

Bibliography

Baraybar, Jose Pablo, Valerie Brasey, and Andrew Zadel. "The Need for a Centralised and Humanitarian-based Approach to Missing Persons in Iraq: An Example from Kosovo." *The International Journal of Human Rights* 11, no. 3 (2007): 265-274. https://doi.org/10.1080/13642980701443335

Beran, Roy. "The role of the expert witness in the adversarial legal system." *Journal of Law and Medicine* 17, no. 1 (2009): 133-137.

Budowle, Bruce and Angela Van Daal. "Forensically relevant SNP classes." *BioTechniques* 44, no. 5 (2008): 603-610. https://doi.org/10.2144/000112806

Budowle, Bruce, Frederick R. Bieber and Arthur J. Eisenberg. "Forensic aspects of mass disasters: Strategic considerations for DNA-based human identification." *Legal Medicine* 7 (2005): 230-243. https://doi.org/10.1016/j.legalmed.2005.01.001

Convention on the Rights of the Child. Opened for signature 20 November 1989, 1577 U.N.T.S. 3, entered into force 2 September 1990.

Dolinak, David and Evan Matshes. "Identification." In *Forensic Pathology: Principles and Practice*, edited by David Dolinak, Evan Matshes and Emma O. Lew, 555-562. Burlington: Elsevier, 2005.

Freckelton, Ian. "DNA Profiling: Forensic Science under the Microscope." *Criminal Law Journal* 14, no. 1 (1990): 23-41.

Galella, Patricio. "Privatising the search and identification of human remains: the case of Spain." *Human Remains and Violence* 1, no. 1 (2015): 57-74. https://doi.org/10.7227/HRV.1.1.5=

Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armies in the Field. Opened for signature 27 July 1929, 118 LNTS 303, entered into force 19 June 1931.

Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field. Opened for signature 12 August 1949, 75 UNTS 31, entered into force 21 October 1950.

Geneva Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea. Opened for signature 12 August 1949, 75 UNTS 85, entered into force 21 October 1950.

Geneva Convention relative to the Treatment of Prisoners of War. Opened for signature 12 August 1949, 75 UNTS 135, entered into force 21 October 1950.

Geneva Convention relative to the Protection of Civilian Persons in Time of War. Opened for signature 12 August 1949, 75 UNTS 287, entered into force 21 October 1950.

Innocence Project. 2016. Accessed April 27, 2017. https://www.innocenceproject.org/.

International Commission on Missing Persons. "Data Protection." 2017. Accessed March 20, 2017. http://www.icmp.int/the-missing/approaches-and-standards/data-protection/.

--------. "DNA Genetic testing and processing information sheet." February 3, 2016. Accessed March 21, 2017. http://www.interno.gov.it/sites/default/files/allegati/icmp_st_ls_299_4_doc-scheda_dna.pdf.

--------. "Bosnia and Herzegovina." June 18, 2014. Accessed March 21, 2017. https://www.icmp.int/where-we-work/europe/western-balkans/bosnia-and-herzegovina/.

--------. "ICMP Submits 95 New DNA Match Reports to Libyan Authorities to Expedite Identification Efforts." March 16, 2013. Accessed March 21, 2017. http://www.icmp.int/press-releases/icmp-submits-new-dna-match-reports-to-libya/.

--------. "DNA Reports Guide." December 16, 2010. Accessed March 21, 2017. https://www.icmp.int/wp-content/uploads/2015/04/icmp-fsd-dna-50-2-doc.pdf.

--------. "Agreement between the International Commission on Missing Persons and the Government of the Republic of Croatia regarding the status of the International Commission on Missing Persons office in the Republic of Croatia." September 3, 2002. Accessed March 21, 2017. http://www.icmp.int/wp-content/uploads/2014/08/agreement-icmp-roc.pdf.

---------. "Headquarters Agreement between the International Commission on Missing Persons and the Council of Ministers of Bosnia and Herzegovina," April 26, 1998. Accessed March 21, 2017. http://www.icmp.int/wp-content/uploads/2014/08/hq-agreement-with-bih-mofa.pdf.

International Committee of the Red Cross. *Missing People, DNA Analysis and Identification of Human Remains: A guide to best practice in armed conflicts and other situations of armed violence*, 2nd ed. Geneva: ICRC, 2009.

--------. *Customary International Law* (ICRC, 2017). Accessed March 20, 2017. https://ihl-databases.icrc.org/customary-ihl/eng/docs/home.

International Convention for the Protection of All Persons From Enforced Disappearance. Opened for signature 6 February 2007, 2716 U.N.T.S. 3, entered into force 23 December 2010.

International Covenant on Civil and Political Rights Arts. Opened for signature 19 December 1966, 999 U.N.T.S. 171, entered into force 23 March 1976.

Interpol. *Disaster Victim Identification Guide,* Interpol, 2014. Accessed March 21, 2017. https://www.interpol.int/INTERPOL-expertise/Forensics/DVI-Pages/DVI-guide.

--------. *Interpol Tsunami Evaluation Working Group: The DVI Response to the South East Asian Tsunami between December 2004 and February 2006*. Interpol, 2010.

Jugo, Admir and Senem Skulj. "Ghosts of the past: The competing agendas of forensic work in identifying the missing across Bosnia and Herzegovina." *Human Remains and Violence* 1, no. 1 (2015): 39-56. https://doi.org/10.7227/HRV.1.1.4

Kirby, Michael. "Forensic Evidence: Instrument of Truth or Potential for Miscarriage?" *Journal of Law, Information and Science* 20, no. 1 (2010): 1-20.

MacKinnon, Gaille and Amy Z. Mundorff. "The World Trade Center—September 11, 2001." In *Forensic Human Identification: An Introduction*, edited by Timothy James Upton Thompson and Sue M. Black, 485-499. Boca Raton: CRC Press, 2007.

Mnookin, Jennifer L. "People v Castro: Challenging the Forensic Use of DNA Evidence." *Journal of Scholarly Perspectives* 3, no. 1 (2007): 77-105.

National Institute of Justice. *Lessons Learned From 9/11: DNA Identification in Mass Fatality Incidents*. Washington DC: National Institute of Justice, 2006.

--------. *Mass Fatality Incidents: A Guide for Human Forensic Identification.* Washington, DC: National Institute of Justice, 2005.

Neier, Aryeh. *War Crimes: Brutality, Genocide, Terror, and the Struggle for Justice*. New York: Random House, 1998.Office of the High Commissioner for Human Rights (OHCHR).

Promotion and Protection of Human Rights: Study on the Right to the Truth, UN Doc E/CN.4/2006/91, 8 February 2006.

Orentlicher, Diane. *Report of the independent expert to update the Set of Principles to combat impunity*, Addendum, "Updated set of principles for the protection and promotion of human rights through action to combat impunity," UN Doc E/CN.4/2005/102/Add.1, 8 February 2005.

Parven, Khaleda. "Forensic Use of DNA Information v Human Rights and Privacy Challenges." *University of Western Sydney Law Review* 17 (2013): 41-65.

Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts. Opened for signature 8 June 1977, 1125 UNTS 3, entered into force 7 December 1978.

Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts. Opened for signature 8 June 1977, 1125 UNTS 609, entered into force 7 December 1978.

Sarkin, Jeremy, Lara Nettelfield, Max Matthews, Renee Kosalka. *Bosnia and Herzegovina, Missing Persons from the Armed Conflicts of the 1990s: A Stocktaking*. Sarajevo: International Commission on Missing Persons, 2014.

Schmitt, Stefan, Amanda Sozer, Gillian Fowler and Dallas Mazoori. "Physicians for human rights: the role of forensic archaeology in transitional justice contexts." In *Forensic Archaeology: A Global Perspective,* edited by W.J. Mike Groen, Nicholas Márquez-Grant and Rob Janaway, 471-478. Chichester: Wiley-Blackwell, 2015. https://doi.org/10.1002/9781118745977.ch53

Schmitt, Stefan, Amanda Sozer, William Haglund, Nizam Peerwani, Howard Varney and Robert Lamburne. *Libyan Human Identification Needs Assessment and Gap Analysis.* Cambridge: Physicians for Human Rights, 2013.

Schmitt, Stefan, Amanda Sozer and Dallas Mazoori. *Securing Afghanistan's Past: Human Identification Needs Assessment and Gap Analysis.* Cambridge: Physicians for Human Rights, 2013.

Segen's Medical Dictionary. "Positive identification." Accessed August 5, 2016. http://medical-dictionary.thefreedictionary.com/positive+identification.

Sozer, Amanda. *DNA Analysis for Missing Person Identification in Mass Fatalities*. Boca Raton: CRC Press, 2014. https://doi.org/10.1201/b16475

Sozer, Amanda, Michael Baird, Michelle Beckwith, Brian Harmon, Demris Lee, George Riley and Stefan Schmitt. *Guidelines for Mass Fatality DNA Identification Operations*. Bethesda: AABB, 2010.

United Nations. Statute of the International Criminal Tribunal for the former Yugoslavia, May 25, 1993. UN Doc S/RES/827.

--------. Final Report of the Commission of Experts Established Pursuant to Security Council 780, May 27, 1994. UN Doc. S/1994/674.

--------. *Draft Code of Crimes against the Peace and Security of Mankind with Commentaries in Report of the International Law Commission on the work of its forty-eighth session 6 May – 26 July 1996*, UN Doc A/51/10.

Universal Declaration of Human Rights. G.A. Res. 217A (III), UN GAOR, 3rd session, 183rd plen mtg., UN Doc A/810, 10 December 1948.

Vollen, Laurie. "All That Remains: Identifying the Victims of the Srebrenica Massacre." *Cambridge Quarterly of Healthcare Ethics* 10, no. 3 (2001): 336-340. https://doi.org/10.1017/S0963180101003140

Williams, Robin and Paul Johnson. "Inclusiveness, effectiveness and intrusiveness: Issues in the developing uses of DNA profiling in support of criminal investigations." *Journal of Law, Medicine and Ethics* 33, no. 3 (2005): 545-558. https://doi.org/10.1111/j.1748-720X.2005.tb00517.x

Preserving Human Rights Media for Justice, Accountability, and Historical Clarification

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Introduction

Archives are not neutral. They exert social and political power.[1] This power is a product both of the content of an archive and the norms and assumptions that guide its curation. It has traditionally been deployed on behalf of the elite to preserve the political order.[2] When used in historical scholarship, archives make certain aspects of the past visible while obscuring others, whether through selective culling or selective analysis.[3] Over the past few decades, however, archivists and historians have increasingly recognized that the power of archives can be redeployed to advance the cause of governmental accountability, human rights, and social justice.[4]

At the same time, there has also been a move to preserve more than just the documents and records of governments, businesses, the wealthy, and the famous. Archives and archiving projects are increasingly concerned with preserving the physical traces that ordinary people leave behind, including their diaries, letters, and records of commerce, activism, and community organizing.[5] This broadening of scope not only breaks down the hierarchies of knowledge that have been critiqued by social theorists, historians, and archivists alike, but also makes possible the telling of history from multiple perspectives.[6]

Rather than focus exclusively on the development, justification, and implementation of policy by the elite, we can see how such policies actually affected the lives of ordinary people.[7] We can hear the voices of those who are silenced in contemporary society because they are not viewed as important to listen to (e.g., female homemakers, subsistence farmers, unskilled labor, the LGBTQ community, or the racial and ethnically marginalized), and learn more about their lives.[8] The shifting conception of the archive's social value has been paralleled by another development: the dramatic expansion of the role of the Internet, computers, and mobile devices in human communication and the corresponding requirement of archivists to respond to this trend.[9]

This article will explore the convergence of these trends in the intentional, third party preservation of images and video of human rights abuse or war crimes created by witnesses, victims, or perpetrators and shared via social media platforms.[10] It is meant to provide a broad introduction for practitioners, advocates, journalists, and policy makers who have not had formal training in this domain and are working outside of institutions with well-developed archival practices. It explains why preservation of this content is crucial and seeks to help human rights practitioners

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[1] Randall C. Jimerson, *Archives Power: Memory, Accountability, and Social Justice* (Chicago: Society of American Archivists, 2009); Michel-Rolph Trouillot, *Silencing the Past: Power and the Production of History* (Beacon Press: Boston, 1997).

[2] Joan M. Schwartz and Terry Cook, "Archives, Records, and Power: The Making of Modern Memory," *Archival Science* 2 (2002), 1–19.

[3] Ibid.; Trouillot, *Silencing the Past*.

[4] Jimerson, *Archives Power*; Verne Harris, *Archives and Justice: A South African Perspective* (Chicago: Society of American Archivists, 2007); Kirsten Weld, *Paper Cadavers: The Archives of Dictatorship in Guatemala* (Durham: Duke University Press, 2014).

[5] Catherine Hobbs, "The Character of Personal Archives: Reflections on the Value of Records of Individuals," *Archivaria* 52 (2001), 126-135.

[6] Mark A. Greene, "The Power of Meaning: The Archival Mission in the Postmodern Age," *The American Archivist* 65 (2002), 42-55.

[7] Hobbs, *The Character of Personal Archives*.

[8] Susan Tucker, "Tacitly the Work of Women: Personal Archives and the Public Memory of Families," in *Perspectives on Women's Archives*, ed. Tanya Zanish-Belcher and Anke Voss (Chicago: Society of American Archivists, 2013).

[9] See, e.g., The Digital Curation Centre http://www.dcc.ac.uk/; Digital Preservation Coalition: http://www.dpconline.org; COPTR: http://coptr.digipres.org/Main_Page; Library of Congress Digital Preservation Resource: http://www.digitalpreservation.gov/; Open Preservation Foundation: http://openpreservation.org/; Preserving (Digital) Objects with Restricted Resources (POWRR): http://digitalpowrr.niu.edu/.

[10] For the sake of clarity and space, this article will not address text-based Internet media, such as tweets, blogs, or other social media postings, or historical video that is stored or archived in a non-digital format.

embed preservation into the process of media collection and human rights documentation without assuming that these organization will want, or be able, to implement a full-scale archiving operation. To borrow a phrase routinely repeated in investigations of the ethics and practice of preservation, this study will provide more questions than answers.[11]

The Duty to Preserve
Video and images of human rights abuse and war crimes are constantly at risk of disappearing from the public domain. The creator or uploader could decide that the risks of posting such material are too great to justify its continued existence online (i.e., that its existence puts individuals or communities at risk); a nefarious actor could threaten them and demand that they take the content down or close their account all together; or they could become overwhelmed by the publicity they are receiving from the media or the public.[12] Content can also be taken down by the hosting company because it violates community standards, the end user agreement, or copyright law. This might occur because viewers of the content flag it as violent, sexual, or inflammatory in nature, or if copyrighted music or video are used to supplement the creator or uploader's message or point of view. Those with a vested interest in rendering the content of the media invisible will often deploy these strategies in order to facilitate its disappearance. Additionally, private companies may shut down the accounts of blatant human rights violators in order to make it harder for them to get their message out, which has the unintended consequence of hiding evidence of their activities from human rights investigators. The uploader's account might be hacked by nefarious actors and either taken offline entirely or stripped of certain content. This threat of disappearance provides all the more reason for smaller organizations to preserve a copy of their content regardless of whether or not they choose to share it, and for larger organizations to provide support and resources to these groups in this endeavor.[13]

No matter what the cause, the disappearance of content relevant to human rights investigations and conflict monitoring occurs on a regular basis.[14] For those who believe in the inherent value of human rights documentation, there is a pressing duty to preserve this content for use in humanitarian, justice and accountability, and historical investigations. This duty is shared by individuals and institutions whose missions are explicitly human rights-oriented and who are capable of doing so in a safe and secure way, as well as the privately operated platforms that serve as de facto public forums for media that clearly depict human rights violations and war crimes. This preservation, of course, must be done with the explicit intent to protect and promote human rights and has precedent in the way that the preservation of child pornography is handled by these platforms. WITNESS, the Human Rights Center at UC-Berkeley and other groups have been discussing the idea of an evidence locker—a repository for human rights media that will likely be taken down by content platforms—but numerous questions remain about whether it should be done, and if so, who would house and govern this archive if maintained separately from other content. One challenge in this context that will require additional ethical deliberation is the reality that the preservation process will directly undermine the decision of particular creators or uploaders to return their content to the private domain for legitimate reasons.

The Importance of Images and Video
The creation of video or images of human rights abuse or war crimes may be accidental or explicitly for the purposes of documenting wrongdoing. In some cases, the creator shares this media directly online, and in others local or international content aggregators operating social media channels

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[11] See, e.g., Elena S. Danielson, *The Ethical Archivist* (Chicago: Society of American Archivists, 2010), who provides a list of the questions her study generated at the end of each chapter of her book.

[12] David Crunelle, "The Art of Being in the Wrong Place At the Right Time: Behind the Scenes of Social Media Newsgathering," accessed September 19, 2016, https://medium.com/@emhub/the-art-of-being-in-the-wrong-place-at-the-right-time-behind-the-scenes-of-social-media-3ee558630e93#.7ls6u8wln.

[13] Yvonne Ng (WITNESS), personal communication, May 24, 2016.

[14] In my own work on videos from Syria and Ukraine, between 20-50% of the videos originally identified on public platforms are no longer publicly accessible.

that focus on specific issues or regions post it. The value of such material in improving our understanding of these events has been amply demonstrated in the Syrian conflict, unrest and demonstrations in Ukraine, episodes of violence in Nigeria, and situations of police brutality in the United States (to name just a few diverse cases).

Video and images often compliments official narratives and press accounts of an event or situation, adding detail and nuance. At other times, they directly rebut certain factual claims and contradict particular narratives. However it is important to remember that images and video are framed—the viewer can only see what the cameraperson chooses to focus on or the editor choses to include in the final cut. One advantage of citizen media is that a given event is often filmed from multiple locations, allowing for its multi-perspectival reconstruction. The availability of numerous accounts of an event can hopefully shed light on the limitations of any one view. It can also provide a richer accounting of what happened by expanding the amount of information that can be gathered about an event, as well as what happened immediately before and after it.

It is also important to note that people only record and share certain kinds of events with their cameras—usually dramatic moments taking place in public or semi-public places, and they only post certain kinds of content on the Internet. Thus, crimes like intimate partner violence (IPV) and labor law violations are generally not captured on video. There are notable exceptions to this trend—see, e.g., the surreptitious investigative work of Videre est Credere in the labor domain; or incidental capture of IPV by closed circuit surveillance systems—but at the moment, they are few and far between. Further, some crimes require documentation of systematic, ongoing violations over time. While the first few instances of a crime may be captured by witnesses or victims, perpetrators will eventually become aware of their actions and will alter their behaviors accordingly.

Human Rights Archives
There is by now a well-developed literature on crucial role that archives can play in historical clarification and justice and accountability efforts in the aftermath of human rights abuse and war crimes—particularly when it comes to preserving the administrative records of wrongdoers. Louis Bickford was among the first human rights advocates to voice the "archival imperative."[15] In 1997, the UN Commission on Human Rights articulated the core principle that human rights abuse victims' right to know necessarily implies the preservation of archives and, further, that every effort should be undertaken both to prevent destruction of relevant material and to inform and protect those individuals whose names appear in the records.[16] Such actions were seen as key to ending impunity. Further, the International Council of Archives 2009 report on archives and human rights highlighted the crucial work that archives can do in societies transitioning from repressive regimes to democracy.[17]

These sources make it clear that because human rights abusers and war criminals could erase evidence of their wrong-doing by destroying or hiding their records, it is incumbent upon the human rights community to prioritize preservation of these records before they disappeared.[18] The most obvious reason to preserve the records of human rights abuse and war crimes is the need to hold perpetrators responsible for their misdeeds, to acknowledge the suffering of victims, and to begin the process of healing societies torn apart by violence and suffering. This requires knowing what happened to the extent that it is ever possible to do so.

[15] Louis Bickford, "The Archival Imperative: Human Rights and Historical Memory in Latin America's Southern Cone," *Human Rights Quarterly* 21, no. 4 (1999), 1097-1122.

[16] Louis Joinet, "The Administration of Justice and the Human Rights of Detainees Question of the Impunity of Perpetrators of Human Rights Violations (Civil and Political)," E/CN.4/Sub.2/1997/20 (1997).

[17] Antonio González Quintana, "Archival Policies in the Protection of Human Rights" (International Council on Archives, 2009). The International Council of Archives also has produced a draft set of principles for archivists involved in human rights work, but this document has not been finalized as of the publication of this article. International Council on Archives Human Rights Working Group, "Basic Principles on the Role of Archivists in Support of Human Rights (Draft)," accessed June 9, 2016, http://www.icarchives.webbler.co.uk/15999/news-and-events/basic-principles-on-the-role-of-archivists-in-support-of-human-rights-give-your-opinion.html.

[18] Harris, *Archives and Justice*; Weld, *Paper Cadavers*.

But Bickford makes the case for preservation on numerous other grounds as well: first, the need to disprove claims by revisionists who almost always emerge to deny, or at least minimize, crimes against humanity. Second, archives allow "future generations, from historians to family members, to thoroughly investigate what happened and reach their own conclusions."[19] Third, it is impossible for any justice and accountability effort to provide a complete picture of the past because time, resources, mandates, political imperatives, and imagination are always finite. While these institutions might produce significant truth or clarification, there is always "more to be learned about what occurred, especially, in terms of human rights violations, within the inner-workings of authoritarianism, inter-regional and international aspects of military rule, and contemporary human rights movements."[20]

These endeavors all contribute to determining what is known and not known in a given society, whose perspectives play into the development of collective memory, and what resources members of society have to question and challenge the historical accounts that structure the reconstruction of their world.[21] But archives are not simply records of what happened. They are symbolic, and constitutive, of what kind of knowledge is valued and what kinds of knowledge projects are possible. As such, they possess power that exceeds the way they are deployed by any given interested party.

At the same time it is important to recognize the numerous hazards of collecting large amounts of sensitive information and storing it in one or a few places. In the context of videos and images, there are obvious concerns regarding the safety and security of creators and those portrayed in them, as well as the presumption of innocence of the individuals who are accused of, or appear to be committing, crimes in images or video. Large-scale preservation of digital content begs the question of who owns this information and what can be done with it. How much control should content creators and social media uploaders retain over the preservation and use of their content by third parties—even those with the purest motives and best of intentions—when it has significant historical, political and legal value? Should the wishes and privacy of victims depicted in human rights related video be privileged over the important social goal of preserving the historical record? Should the goal of preservation supersede the desire of such individuals to take down and privatize images or videos that were publicly available for a period of time—even when we know that access to information often fails to lead to justice or accountability in politically contentious situations? Should collected audiovisual material related to human rights abuses and war crimes be made public or kept private, and if kept private, how should access and use be governed? What rights do the accused/perpetrators have when they can be seen in videos or images committing what appear to be crimes and human rights abuses?

On a related note, large international justice organizations now have even greater potential to extract preserved information from smaller more regional organizations and use it to pursue their desired ends. Sometimes these ends are at odds with, or at least not the priorities of, the groups or individuals who document conflict and human rights violations at the local level. Rather, they often reflect the normative frameworks and imaginaries of international institutions and the individuals who staff them.[22] Finally, the archival imperative rests on the positivist notion that the preservation of information about human rights violations and war crimes is an inherently good thing, and that its use will lead to positive outcomes for affected individuals, communities, and societies. Recent scholarship, including the work of archivist Verne Harris and writer David Rieff, suggests that this may not always be the case.[23] It is not possible to give this particular issue

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[19] Bickford, *The Archival Imperative*, 1099.

[20] Ibid.

[21] Graham Stinnett, *Rebel Collectors: Human Rights and Archives in Central America and the Human Rights Commission of El Salvador and the Resource Center of the Americas, 1978-2007* (Winnipeg, Manitoba: University of Manitoba and University of Winnipeg, 2010).

[22] Elena Baylis, "Tribunal-Hopping With the Post-Conflict Justice Junkies," *Oregon Review of International Law* 10 (2008), 361-390.

[23] Verne Harris, "Claiming Less, Delivering More: A Critique of Positivist Formulations on Archives in South Africa," *Archivaria* 44 (1997), 132-140; David Rieff, *In Praise of Forgetting: Historical Memory and Its Ironies* (New Haven: Yale University Press, 2016).

the space and consideration it deserves, but it is crucial to at least recognize the assumptions and normative frames that undergird this analysis.

Human Rights Media Preservation Landscape
A great deal of human rights-related media is being collected and stored outside of traditional archives or libraries by journalists and human rights activists. Sometimes the individuals and organizations doing this work have training in archiving or are being advised by professional archivists, but this is not always the case. Many journalists, especially those employed by media-centric organizations like Storyful, have well-developed practices that are tied into their business models, but there is no default professional code of conduct that regulates preservation and sharing of human rights-related content and it would be difficult to create one.

On the activist side, the independence of what are sometimes called community archives from elite actors and dominant institutions may reflect the marginalization and powerlessness of those involved in the creation and collection of materials, or it may reflect a conscious decision to work outside of power structures that are perceived as discriminatory or disempowering.[24] There is increasing effort in the archivist profession, however, to work directly with community members to help them document and preserve their own histories.[25] There is also a robust tradition within the archiving community of conceiving of human rights archives as any material that can illuminate injustice, not just administrative records or official documents, and also framing principles and practices in terms of their social impact rather than the purely technical principles of archival science.[26]

While it would be valuable if professional archivist with significant experience in human rights documentation were available to advise every human right media preservation effort that requested such support, this is unlikely to occur given the number and diversity of such endeavors and the barriers that often separate lay and professional communities. That said, archivists can still work together with the human rights community and front-line journalists to play a vital role in preserving human rights related digital content in a way that is mindful of the technical, legal, ethical, political and cultural challenges in this process, and that privileges the needs and desires of human rights abuse victims.[27]

Archiving Human Rights Media
There are many kinds of human rights media archiving efforts. First is the long-term preparation and storage of proprietary content by the creator or an organization/repository selected by the creator as the recipient of such content. Second is the acquisition and storage of content found on public social media and the Internet, or shown on live-streaming services such as Periscope, Meerkat, Facebook, or Twitter. And third is the collection of material that doesn't fit neatly into either of these categories: namely that sent privately on social media or through sharing applications such as Snapchat, WhatsApp, Yik Yak, and Telegram. In many cases, media from this category are widely circulated even if they are never made explicitly public on the open Internet. A fourth kind of archiving involves the surreptitious collection of media by an unauthorized source who has access to it for purposes of whistleblowing. While these archives are not initially public, they may either be captured and made public by the opposition or leaked by individuals who want the world to know what is happening. The Caesar photos from Syria and audiovisual and textual resources regarding U.S. military actions provided to Wikileaks by Chelsea Manning are two examples of this phenomenon.

The focus of this article will be primarily on the second and third form of archiving. This is partly because self-preservation of materials fits squarely with the traditional model of archiving,

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[24] Michelle Caswell, "Toward a Survivor-Centered Approach to Records Documenting Human Rights Abuse: Lessons From Community Archives," *Archival Science* 14, no. 3-4 (2014), 307-322.

[25] Ibid.

[26] See the 2014 special issue of Archival Science on human rights archives, especially the excellent introduction: Michelle Caswell, "Defining Human Rights Archives: Introduction to the Special Double Issue on Archives and Human Rights," *Archival Science* 14, no. 3-4 (2014), 207-213.

[27] Caswell, *Toward a Survivor-Centered Approach.*

and partly because the non-governmental organization WITNESS has already produced an excellent guide for advocates to archive their own materials.[28] That said, there are many areas of overlap (the WITNESS guide is referenced several times here), and there are many organizations that archive both their own content and found material, so this document can be read in parallel with that guide. The bottom line in both cases is that preserving media requires technical skill and a willingness to put time and labor into setting up the necessary infrastructure with thought and care. Cutting corners to save time in the short run will often lead to significant expenditures of time, or worse, loss of data or data integrity, in the long-term. Both also include significant legal and ethical questions that may require counsel and definitely require conscientious deliberation within the archiving institution. Further, it is crucial to recognize that while preserving evidence for use in humanitarian response, long term justice and accountability efforts, and historical clarification is important, the safety of creators, those depicted in the media, and their families is paramount. As WITNESS notes:

> Inherent in video's power to convey an individual story is the potential for a video to impact the safety, dignity, and privacy of individuals and communities captured in the footage. A video of sexual assault, for example, has the potential to shame, re-victimize, and endanger the abused individual. Widely circulated footage of human rights defenders could make them targets of arrest or violence by repressive governments. Testimony of a police officer describing corruption among his superiors could put that officer at risk of losing his job or worse.[29]

It is important to note that a crucial source of evidence in many human rights investigations is media created by perpetrators, rather than victims, eyewitnesses, or rights advocates. This content raises additional questions that must be carefully considered as part of the archiving process—such as whether to make this material public, how to protect the privacy of victims depicted in the media, and how to preserve the due process legal rights of those who are depicted committing potential crimes or abuses.

Appraisal
The first step of any preservation effort takes place before any content is collected: the preserving organization or individual must decide what its purpose is and what the scope of its collection will be—i.e., what it is going to collect, what it is not going to collect, how it makes that assessment for specific content, how the collection will be used, and who will have access to it. The answers to these questions may evolve over time, but it is crucial that any preservation project begin with a clear mission in mind. This mandate may be all encompassing, such as the Syria Justice and Accountability Center's desire to collect and preserve documentation of any type (including hundreds of thousands of videos) of all "violations of human rights, humanitarian, and international criminal law in Syria," regardless of perpetrator, "in order to facilitate transitional justice and accountability efforts."[30] Or, it may be narrowly tailored, such as WITNESS's new effort to collect, analyze, and contextualize video of hate crimes against transgender people in the United States.[31]

The storage method chosen and availability of human labor will at least in part determine what media is actually kept. If either are limited, the preserving organization may have to be extra selective about what to preserve and what not to. An organization with limited storage or labor might decide to keep only video from established sources or close collaborators in original, raw format and ignore anything that has been edited or is available on social media. Organizations that

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[28] WITNESS, "Activists' Guide to Archiving Video," accessed June 15, 2016, https://archiveguide.witness.org/.

[29] WITNESS, "Ethical Guidelines: Using Eyewitness Videos in Human Rights Reporting & Advocacy," accessed June 13, 2016, https://library.witness.org/product/video-as-evidence-ethical-guidelines/, 4.

[30] Syria Justice and Accountability Center, "Collect and Preserve Documentation," accessed September 19, 2016, https://syriaaccountability.org/what-we-do/.

[31] Karen Stevenson, "Curating Eyewitness Videos for Data on Transphobic Violence," WITNESS (June 2016), accessed September 19, 2016, https://lab.witness.org/curating-eyewitness-videos-data-transphobic-violence/.

have access to large amounts of storage, and a lot of labor, might elect to collect everything with little initial evaluation, and then go back at a later date to filter out extraneous results, authenticate the media that is kept, and evaluate its content. All are logical decisions that are based on mission and resources. In a world of limited resources, significant value can be gained when organizations work together in the mode of "collaborative collecting" to secure as complete a record of a situation as possible.[32]

Acquisition

Once the scope and mission of the effort is specified, the next step is to determine how to acquire of the most authentic version of the relevant media possible. The original, complete, unedited file is preferred, but this will often be impossible when video or images shared via social media are involved. If the creator of the media is known and can be contacted, the preserver should consider doing so, but only after carefully considering the risk associated with reaching out to the individual. They should ask for as much background about the circumstances in with the media was filmed as possible—especially date, location, and what they captured in the video. If possible, the archiving organization should request the master copy, and, if the video has been edited, also consider collecting the original, raw sources of the selections that were brought together.

The preserving organization should also try as best as it can to request permission to store, utilize, and share the image or video. This conversation should also directly address issues of long-term ownership and control of the material, which is discussed below. The organization should be as explicit as possible about how the media will be stored and all the potential uses to which it may be put, and also find out whether the creator would be willing to be contacted in the event that the media is used for investigatory, legal, or historical purposes. The organization should also ask whether the creator would like to be credited in any way if the content is used, and if so, how. This can be a monumentally large and difficult process when dealing with large volumes of video, and impossible when a creator or uploader cannot be discerned. In addition to the issue of personal harm and violation of privacy, those engaged in preservation must think carefully about what to do when content they have preserved from the Internet is taken down or goes private. Do organizations have a duty to delete this material from their collections, preserve it for posterity, or endeavor to strike a balance—however imperfect—between the two? There is no clear answer to this question.[33]

Whether or not the creator can be contacted, the organization should document all aspects of the acquisition process (time, date, source, location, etc.), as well as any preservation metadata—i.e., a record of any action performed on the media by the archive, including: changes in format to ensure continued accessibility; information about hardware used in storage process; usage data; and rights information. There are many guidelines for preservation metadata, including the Library of Congress's PREMIS standard.[34] Without such documentation, assurance of chain of custody and the ability to authenticate a video will be compromised moving forward.[35] In the case of publicly available/shared content for which it is difficult or impossible to contact the creator, the first known version, in the highest resolution available, should be acquired. In either case, acquisition should involve the collection of all public metadata available at the time of collection, not just the media itself, and a record of how the resource looked when it was acquired (either in the form of a screenshot or preservation of html code). This package should then be cryptographically hashed (given a unique alphanumeric identifier produced through a computational process and time-stamped) using a trusted source to ensure their authenticity and makes it possible to detect subsequent tampering.[36]

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[32] Danielson, *The Ethical Archivist*, 53.

[33] WITNESS, *Ethical Guidelines: Using Eyewitness Videos*.

[34] Library of Congress, "PREMIS," accessed June 15, 2016, http://www.loc.gov/standards/premis/.

[35] WITNESS, "Activists' Guide to Archiving Video," accessed June 15, 2016, https://archiveguide.witness.org/.

[36] For an explanation of cryptographic hashing, see: Enrique Piracés, "Trusted Timestamping," accessed September 19, 2016, https://www.rightslab.org/vault/faq.php#Trusted_Timestamping.

Courts, tribunals, and other fact-finding bodies will differ in exact requirements for collection of metadata and formats, so it is best to collect as much information as possible when acquiring human rights-related media and store it in the most flexible database possible. Preservation specialists and human rights practitioners have discussed the merits of adopting a single preservation policy for the human rights community (or at least those human rights organizations that are hooked into dominant internationally-oriented networks), such as one based on the International Criminal Court's eCourt Protocol (which lays out the evidentiary standards—and therefore many preservation requirements—for the use of electronic evidence in its legal proceedings), but no such action has been taken at the time of the publication of this article.[37] Whether the content is privately collected or gathered from public sources, as noted above, it is imperative to preserve as much original metadata as possible and record all modifications made to the file once it enters your possession.

Many human rights practitioners who specialize in documentation, including those who run Amnesty International's Citizen Evidence Lab, are using a tool called VideoVault for acquiring online content.[38] It is available both as a standalone web application in a browser, or as an extension for the Google Chrome browser that automatically preserves a video and all relevant additional information and metadata with the click of a button. It then sends this data to the user as a preservation package to be stored in a location selected by the user.

Storage

Acquired media should be stored in the most secure way possible. There is no single solution to this task. The best storage method will be determined by the situation and the resources available to the individual or institution acquiring the media. In all cases, though, efforts should be undertaken to ensure the security of the system, and that it is at least minimally redundant (i.e., more than one copy is kept). The Responsible Data Forum (RDF) recently published its first handbook, which contains a useful chapter on archiving and preservation of digital content in human rights and humanitarian contexts.[39] RDF suggests that organizations that will have difficulty creating a "home for healthy data"[40] should consider partnering with one of the established human rights archives connected with a major university or large NGO, including Open Society, Duke University, or Columbia University. Many human rights organizations already rely on these institutions to archive their finished work products and inactive business records. Amnesty International, Human Rights Watch, and Physicians for Human Rights, for instance, deposit many of their materials in Columbia University's Archive.[41] Duke University's archives have an extensive collection of Latin American human rights-related material as well as the collection of the International Center for Transitional Justice.[42] The Open Society Archives contain extensive documentation of human rights struggles in the former Communist countries of Central and Eastern Europe, including over 11,000 hours of audiovisual material.[43]

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[37] Enrique Piracés and Jay D. Aronson, "Human Rights Media Central Workshop Summary Report" (October 2015), accessed June 15, 2016, http://www.cmu.edu/chrs/documents/HRMC-Meeting-Report.pdf; International Criminal Court, "eCourt Protocol," accessed June 15, 2016, https://www.icc-cpi.int/iccdocs/doc/doc1695618.pdf.

[38] VideoVault is being developed by Enrique Piracés, my colleague at the Center for Human Rights Science at Carnegie Mellon University. He is carrying out this work independently of the center and the university as a public service to the human rights community. He has no financial stake in the software. See: Enrique Piracés, "VideoVault," accessed April 24, 2017, https://www.bravenewtech.org.

[39] Responsible Data Forum, "Closing a Project: Archiving and Preservation of Content," accessed June 15, 2016, https://responsibledata.io/resources/handbook/chapters/chapter-03-closing-a-project.html. Other archival models exist as well, including the International Organization for Standardizations' Open Archival Information System (http://www.iso.org/iso/catalogue_detail.htm?csnumber=57284), and the National Digital Stewardship Alliance (http://www.ndsa.org) offers a variety of useful resources for organizations and individuals interested in preservation of digital materials.

[40] Responsible Data Forum, "Managing Data: Setting Up the Data Infrastructure," accessed June 15, 2016, https://responsibledata.io/resources/handbook/chapters/chapter-02-managing-data.html#a-home-for-healthy-data.

[41] Columbia University Libraries/Information Services, Center for Human Rights Documentation & Research, accessed June 16, 2016, http://library.columbia.edu/locations/chrdr/archive_collections.html.

[42] International Center for Transitional Justice, accessed February 24, 2017, https://www.ictj.org/.

[43] Vera & Donald Blinken Open Society Archives, accessed June 16, 2016, http://www.osaarchivum.org/archives.

Yet, this is clearly not a viable approach for smaller organizations that lack trust in larger institutions to safeguard their material or fear that they will lose control of their content if it is under the care of a third-party. Further, the initiatives above tend to follow a more traditional archiving model, in which completed work products and inactive business records are processed and stored. These organizations tend not to rely on third-party repositories for the immediate storage of material being collected for future analysis and use.[44] Further, in most cases, organizations that preserve content will potentially be in violation of terms of service of the social media and Internet platforms where they initially discover the content, which will likely cause problems when negotiating with larger archiving institutions.

For organizations that do not wish to enter into any form of partnership, but want to store their material off site, numerous cloud-based services (e.g., Box, Dropbox, Apple iCloud, or Amazon) provide simple, relatively low-cost, and relatively secure[45] storage solutions. Before uploading material to these services, it is important for organizations and activists to understand that they might be legally required cooperate with law enforcement or other state agents if formally asked to provide access to content. Such services are also liable to hacking and other forms of password theft. It is also important to recognize that the cloud is really just somebody else's server. It does not denote a magical, mythical 100% dedicated and secure repository, despite the marketing efforts by large companies that provide such services. For web-based material, the Internet Archive (archive.org), which includes perpetual storage on their secure servers for no cost, is another viable option. The Internet Archive also serves as the backend storage site for the digital content of the major academic archiving organizations just mentioned, and will soon be compatible with VideoVault. They also offer their own (paid) subscription-based tool and system called Archive-It that offers more control over content once it is uploaded. It should be noted that Archive-It is not optimized for video and is generally used by universities and institutions that have a dedicated, specialized archiving staff.

Finally, media can be stored on a hard drive, or a non-networked server, although care must be taken to ensure redundancy and guard against physical theft or destruction of the storage device. As strategies for ensuring the continued health of stored material, WITNESS recommends making at least two copies (preferably three), checking files regularly, controlling access, and regularly updating the storage mechanism to keep up with changing technologies.[46] Encryption should be used if transmitting content to a secure location, but files should be stored unencrypted if at all possible to prevent problems accessing the media in the future.

Organization/Cataloging and Content Tagging
Collections of preserved video and images have little value if their content cannot be easily determined and searched. The starting point for all media cataloging efforts is the metadata collected at time of acquisition, including information provided by sources of directly acquired content, technical metadata, and anything related to chain of custody. Catalogues should also include keywords, a basic description of what can be found in the media, what rights restrictions might be placed on the content, and whether the identities of any of the people depicted in the video need to be protected. The richer the catalogue for any given collection, the more value it has to human rights advocates, researchers, and historians.[47] There is, of course, an inherent trade-off in the cataloguing process that archivists have been discussing and debating for a long time: cataloging is very labor intensive, can be highly subjective and biased, and every moment spent extracting information from a one resource means that another resource might languish unnoticed or uncatalogued.[48]

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[44] Yvonne Ng (WITNESS), personal communication, May 24, 2016.

[45] Cloud storage providers offer a wide variety of security levels, ranging from simply password protection to measures that governments feel comfortable using for sensitive information.

[46] WITNESS, "Store: Introduction," accessed June 16, 2016, https://archiveguide.witness.org/store/introduction.

[47] WITNESS, "Catalog: Introduction," accessed June 16, 2016, https://archiveguide.witness.org/catalog/introduction.

[48] Mark A Greene and Dennis Meissner, "More Product, Less Process: Revamping Traditional Archival Processing," *The American Archivist* 68 (2005), 208-263.

Although it is unlikely that an archiving institution or human rights group will have the capacity to extract all relevant information from a collection (this, after all, is generally not the task of an archive), the following types of information can at least conceivably be added to a catalogue by analysts working with the archiving institution or using the collection for research or accountability purposes:

- Using **geolocation** tools available on Citizen Media Lab's Toolbox, it is often possible to determine the location of a filmed event by matching features using services like Google Earth, Google Street View and satellite imagery.
- It is sometimes possible to determine the **date and approximate time of day** using shadows, weather, sun position, and other climactic and clues in the footage.
- **Perpetrators** can sometimes be identified (either individually or at the group level) based on uniforms/clothing, weapons, vehicles, and other physical possessions provided they can be matched to verified footage or images elsewhere.
- **Approximate counts** of people, whether victims, participants in events or bystanders can be determined within the region that is captured in the footage.
- **Types of weapons, vehicles, tools, and other possessions or other implements** can be discerned. This information can help link particular actors to events as supporters even if they are not physically present.
- **Forensic clues** about the incident can sometimes be determined using images of wounds, blood splatter patterns, position of victim, and overall view of crime scene.
- **Patterns of activity** can sometimes be detected when there are multiple videos or images from a particular situation—this can be crucial evidence for a claim that a particular action was part of an orchestrated plan and not a one-off mistake by a "bad apple."

The Center for Human Rights Science at Carnegie Mellon is currently developing semi-automated methods of categorization, tagging, and information extraction from videos and images that lack metadata, but for the moment this work is generally done manually.[49]

Authentication
Once media has been acquired, stored, and catalogued, it must be authenticated before it can be used for legal, scholarly, or advocacy purposes.[50] Organizations preserving video and images for human rights documentation purposes need to know whether the material they have collected actually depicts what it is claimed to show. Authentication is the first step in the longer process of verifying whether the claim made about it is true or not. In other words, a video could actually be authentic (i.e., filmed at the time and place claimed and not altered in any way) but still not be a full, truthful account of what happened there (i.e., it could leave out important parts of a scene or not show the event in its entirety). However, if a video is not filmed at the time and place claimed, or is altered in certain ways, there is no way it can be truthful account of what happened at a different time or place. Such non-authentic videos should not be discarded, however. They may be crucial to understanding how particular parties are seeking to alter understandings of a crime or event.

A robust set of practices has emerged around the authentication and verification of human rights media in recent years. *The Verification Handbook*, published by the European Journalism Centre, provides instructions and case studies for the authentication of video and images in a journalistic or emergency response context.[51] Amnesty International's Citizen Evidence Lab provides step-by-step tutorials, case studies, test exercises, and an updated list of tools for human

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[49] Jay D. Aronson, et al., "Video Analytics for Conflict Monitoring and Human Rights Documentation" (Pittsburgh: Carnegie Mellon University Center for Human Rights Science, 2015).

[50] Craig Silverman, *Lies, Damn Lies, and Viral Content: How News Websites Spread (and Debunk) Online Rumors, Unverified Claims, and Misinformation* (New York: Tow Center for Digital Journalism/Columbia Journalism School, 2015).

[51] Craig Silverman (ed.), *The Verification Handbook* (Maastricht, the Netherlands: European Journalism Center, 2013) is available online at http://verificationhandbook.com/ in English and several other languages.

rights researchers faced with verifying content.[52] The site also contains a valuable reading list regarding authentication and media in the human rights context.

Christoph Koettl, Citizen Evidence Lab's founder, has produced a framework for reviewing and verifying human rights related media. This framework begins with metadata review. Koettl provides an updated list of free and open source tools for reviewing video and image metadata in the Citizen Evidence Lab Toolbox.[53] When video or photograph is acquired in its original, unprocessed format, metadata and image analysis can be used to determine when and where the footage was shot, on what equipment, and whether it has been modified in any way.[54] Unfortunately, when a video or image is uploaded to social media platforms, its technical metadata is replaced by metadata created when it is processed for streaming. This public metadata can tell you when was uploaded, and sometimes from where, but it has limited value for authentication.

In addition to metadata review, the Citizen Evidence Toolbox provides several other verification methods, including using reverse image search to look for the earliest available posting of a particular image or video. Koettl highlights several cases (including examples from Nigeria, Syria, and Palestine, among others) in which content from one time or place was passed off as evidence of human rights abuses in another time or context. Such deception can be intentional (i.e., done explicitly to deceive or falsely accuse an individual or agency of a crime) or, especially in the age of viral video and online activism, unintentional (i.e., passing along incorrect information in the hope of improving a situation, or misreading the context of a particular piece of media).

Other attributes of the source can be helpful in determining the extent to which it can be trusted. For instance, a video or image is released of a human rights violation in a conflict situation by a person who has a long history of posting either from that location or about that location might be accorded more credibility than another image or video posted by someone (or some organization) who either just opened a social media account, or has only posted from or about other locations before. Further, a video or image from someone who is deeply embedded in social networks in the place that is the subject of the report may be more credible than one posted by an individual or organization that is not well-known in the community. These are not definitive markers of veracity, of course, but provide additional information that can be used in such a determination.

Before images or videos are used in court or for advocacy purposes, subject matter and regional specialists should be consulted to verify interpretation and provide historical or cultural context, although this is not the primary responsibility of the organization or individual preserving them. They may also need to be examined by technical experts who have access to proprietary (and expensive) software used to identify edited or manipulated media.[55] Further, as Koettl and others note, video and images do not speak for themselves, however visually compelling they may be. Media will both strengthen a case, and be strengthened, through integration with information from other sources, including eyewitness accounts, satellite data, military reports, official government documents, NGO findings, and other forms of evidence. Such corroboration is already a core practice of human rights documentation, and should continue even as digital evidence becomes more prevalent.

Ethical and Legal Considerations
This section will address some of the main ethical and legal challenges associated with the preservation of human rights-related media—including the notion that preservation of evidence of human rights violations is always an inherently good thing to do. There are numerous frameworks one could use to address these issues, but the global norms of the international human rights approach makes the most sense in this case. When other kinds of rights claims are at issue

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[52] Amnesty International, "Citizen Evidence Lab," accessed June 15, 2016, https://citizenevidence.org/.

[53] Citizen Evidence Lab, "Toolbox," accessed June 15, 2016, https://citizenevidence.org/toolbox/.

[54] Specially engineered technologies, such as Guardian Project's CameraV project and the International Bar Association's eyeWitness to Atrocities app (which is based on CameraV's technology) add additional metadata to a video or image as it is shot to enhance subsequent verifiability.

[55] Christoph Koettl, *Citizen Media Research and Verification: An Analytical Framework for Human Rights Practitioners* (Cambridge, UK: University of Cambridge Centre for Governance and Human Rights, 2016), 9.

(especially claims to copyright/intellectual property or property ownership), the promotion of basic human rights, the prevention of war crimes and crimes against humanity, and respect for the dignity of survivors and victims should take precedence. Further, promotion of civil and political rights, and economic, social, and political rights should be given precedence whenever possible.

There is an equally powerful viewpoint in this context that states that the preservation and availability evidence of human rights violations and war crimes ought to be governed, if not determined, by the wishes of victims' families and survivors of such abuse—not norms generally associated with international non-governmental human rights organizations or archiving institutions generally centered in the global north. Survivors, victims' families, and local documentation groups may want to retain control of evidence so that they can use it in seeking justice, prevent the perpetrators or other enemies from gaining access to it and using it for purposes that go against their mandate, prevent it from ever being made public, delay access to it for some period of time, or even in rare circumstances, destroy it.

Archivist Michelle Caswell has made a practice-oriented version of this argument in numerous publications. She argues for a "survivor-centered approach" to archiving that recognizes that "past victims of human rights abuse depicted in these records did not choose to be documented."[56] In order to restore and honor their agency as human beings with dignity and basic rights we ought to allow survivors to "maintain control over the decision-making processes related to records documenting their abuse, regardless of the nature of the institution— intergovernmental, governmental, or nongovernmental—that maintains custody over such records."[57]

Thus, rather than seeking to preserve as much evidence as possible, Caswell argues that the "primary ethical concern" of all involved in the human rights documentation process should be to honor the wishes and desires of those who survived violations and war crimes, and the relatives of those who were killed as a result.[58] In her view, this doesn't require turning all records over to community groups for archiving, but rather that those individuals most affected by war and human rights abuse should have a say in the archiving process through consultation, participation, and a seat at the decision-making table.

In traditional archiving situations, such questions and governance issues can be addressed through the process of negotiating donor agreements, setting restrictions on a collection, and determining conditions of use. In the context of preservation of video and images from social media and the Internet, however, such negotiations do not take place. Further, since many human rights preservation endeavors happen outside of academia and other archiving institutions, it will not always be possible to directly consult those affected by human rights abuse and war crimes.

One potential way of reconciling the survivor-centered approach with the realities of social media preservation would be to continue to monitor the status of the original instance of a publicly available video obtained from social media or the Internet in order to keep track of whether it goes private or is taken down by the host. If such a practice is put into place, the preserver would then have to decide whether it should flag this change in status as part of its preservation metadata, or even remove the material from its collection.

Security Concerns

Wherever one stands on the question of whether shared video and images should be archived without explicit consent and input of the creator, it is without question that when any kind of human rights-related content is preserved, the archiving individual or institution has an undeniable obligation to ensure that its actions are in the best interest of the affected individuals and communities, and also to protect the safety and security of the creator and all people who are depicted in the image or video. In the absence of explicit input from creators and those depicted, access to preserved material (especially videos and images that are taken down from social media platforms) should be

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[56] Caswell, *Toward a Survivor-Centered Approach*, 309.

[57] Ibid., 308.

[58] Ibid., 309.

limited to those individuals and institutions that are involved in the protection and promotion of human rights or have a direct interest in knowing exactly what happened as a survivor or relative of a victim. Other interests, such as historical clarification or academic research, will have to be handled on a case-by-case basis. There is unfortunately no easy way to determine the legitimacy of a particular request, or to identify exactly who has the authority to make such determinations. The ultimate goal of access policies must be to limit harm to vulnerable individuals and groups, and to promote a deeper understanding of a human rights abuse or conflict situation. At the end of the day, these are all judgment calls, and are debates in which survivors and relatives of victims should be central.

These issues are not unique to the human rights context—academic and institutional archives have been dealing with them for decades. Unfortunately, there are no simple answers. Each case involves accepting some degree of ambiguity and balancing of principles that may be in direct conflict with one another.[59] Institutions and individuals engaged in preservation must decide what lengths they are willing to go to control access to sensitive material. Most importantly, are they prepared to go to jail to protect the content, and what resources should they devote to security, both in infrastructure or legal defense?

Thus, the institution or individual will need to determine in advance of engaging in preservation whether it has the resources, political capital, and institutional mandate to guard against demands for access to material by law enforcement, states, and other nefarious actors whose goal is national security, or protection of power or reputation, not the promotion of human rights in a country or region. At the end of the day, preservers will be faced with making judgments about what constitutes the public's interest and right to know. They will likely require strong legal counsel and very clear-cut data sharing policies to help them in this effort.[60]

Access

According to the Society of American Archivists' statement of values, "Archivists promote and provide the widest possible accessibility of materials, consistent with any mandatory access restrictions, such as public statute, donor contract, business/institutional privacy, or personal privacy. Although access may be limited in some instances, archivists seek to promote open access and use when possible."[61] The hedges included in this statement highlight the reality that the ethics of providing access to archival materials is a "thorny problem."[62] It is not a one and done policy decision, but instead requires constant deliberation and negotiation.

It would not make much sense to argue for open access to human rights media archives (even when all of the material collected may have public at one point), partly because this is not the goal of most human rights organizations (unlike, say an academic research archive) and partly because doing so would put many people at great risk. Preservers of human rights-related content must decide how much access to be granted for specific media, at what time, under what circumstances, and for what use.

Ideally the creator of the media, and those any victims or bystanders portrayed in it, should have the opportunity to determine how their creations and likenesses are used, but in the human rights context, this is not always practical, or even possible. In cases where this isn't possible, and where preserved material is nonpublic and particularly sensitive, one potential option is to convene a knowledgeable and empathetic board of trustees for a particular collection—made up of a mix of survivors, relatives of victims, affected community members, human rights advocates and investigators, lawyers, and other relevant specialists—to set policies and also act as a co-custodian or steward of a collection.

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[59] The history of some of these debates can be found in Menzi L. Behrnd-Klodt and Peter J. Wosh, eds., *Privacy and Confidentiality Perspectives: Archivists and Archival Records* (Chicago: Society of American Archivists, 2005) and Danielson, *The Ethical Archivist*.

[60] Danielson, *The Ethical Archivist*.

[61] Society of American Archivists Core Values and Statement of Ethics, accessed June 17, 2016, http://www2.archivists.org/statements/saa-core-values-statement-and-code-of-ethics.

[62] Elena S. Danielson, "The Ethics of Access," *The American Archivist* 52 (1989), 52-62.

Michelle Caswell notes that consensus will not always be possible in such circumstances, so policies should accommodate multiple viewpoints whenever possible. This board can either set criteria for access (i.e., what should be public, if anything, and what should be restricted), review specific requests for restricted material when they arise, or set general guidelines for the use of material in the collection and the way that it is credited. It can also establish a date or circumstance at which a closed image or video collection might become open or at least less restricted. The board can also determine whether investigators from criminal tribunals, truth commissions, or other official investigative bodies should be give unrestricted access to preserved materials. Trustees and advisors must be mindful that the perpetrator in and inquiry will have a legitimate case or access to the material as well—potentially exposing creators or those portrayed in media to various levels of intimidation or actual physical harm.

Integrating such advisory groups present numerous challenges in the archiving context, but Caswell provides several examples of successful community partnerships including the University of Texas Human Rights Documentation Initiative's South Asian American Digital Archive (SAADA). SAADA involves partnerships with two grassroots activist networks documenting forced deportation of immigrants from the Indian subcontinent after September 11 and several initiatives currently taking place on Indigenous archives in Australia.[63]

Privacy and Safety

Whenever access is granted to a human rights media collection, the preserving institution or individual has a strong obligation to protect the privacy of the sources of the audiovisual media, their creators, and the individuals who appear in them. It will likely be impossible to fully anonymize any of these actors, and indeed, the interests of justice and accountability might not be served by doing so, but every effort must be undertaken to ensure their safety. This might require redacting certain metadata before a collection is accessed, or using a blurring tool (such as that offered by YouTube or other video/image processing software) to hide the faces of individuals before a particular video or image is made public or released to the custody of another institution, researcher, or human rights advocate. It will also certainly require the signing of a nondisclosure agreement, although such documents are unlikely to provide full privacy protection.

Again, such issues are nothing new—the requirement to balance personal privacy and the public interest has been the subject of debate for decades.[64] The stakes are dramatically heightened in the human rights context, where much more than personal reputation or propriety (or national pride) is at stake. There are numerous examples of this kind of situation in the archiving world (e.g., the Boston College Troubles Archive or the South African Truth and Reconciliation Commission Archive), and each case seems to be handled as a unique challenge. In some cases, the desire to protect basic human rights will require restricting access to a collection, and in others in might require making collections available that will almost certainly generate risks to personal privacy and security. In some cases, compromises will need to be worked out in which metadata for a particular piece of media is available, but not the image or video in question. This will of course prevent full use of the material, but it will at least alert investigators that such content exists.

A guiding principle ought to be that any disclosure of private data or individual or community identity must be directly related to the protection and promotion of basic human rights or historical clarification. It must either provide evidence that a violation has taken place or information about perpetrators. Such information should not be released upon request without scrutiny or into the hands of individuals or institutions that do not have human rights and truth telling as core objectives. Actors who are suspected of wanting to use media collections to target activists or community members should be denied access whenever legally possible. Disclosure of information should not harm the ability of an individual to lead a decent life unless that person has committed war crimes or crimes against humanity, or has information that is directly linked to such event. Further, the use of face-blurring and other privacy enhancing techniques should be used whenever possible.

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[63] Caswell, *Toward a Survivor-Centered Approach*.

[64] Behrnd-Klodt and Wosh, *Privacy and Confidentiality Perspectives*.

This is an evaluation of the privacy/access conundrum that is not binary, but rather is contextual.[65] Decisions about whether to grant access to a collection or piece of media is based upon an evaluation of the use to which it will be put, the context in which it will be used, who will be using it, what the potential harms are to the individuals portrayed in the media, to communities, and societies, and what they potential benefits are to those same entities.[66] Whenever possible, these decisions should be made with affected individuals and community representatives at the table.

One potential solution to the challenge of privacy, security, and consent that gives primacy to the desires of creators, can be seen in a recent project involving the collection of tweets surrounding the Black Lives Matter Movement by Deen Freelon, Charlton D. McIlwain, and Meridith D. Clark. It must be noted, however, that the policies they developed to manage a large collection of tweets purchased from Twitter for research purposes (and therefore in compliance with the companies' terms of service) might hinder the preservation of the most relevant images and videos in the human rights context. Specifically, in their public-facing report, they provide only a link to a tweet rather than quoting it in print, which gives the user the opportunity to delete the material if he or she does not want it to be disseminated in such a way. Further, they limit their discussion of specific tweets to those that were posted by users who had 3,000 followers or more, or where verified by the company, and had a minimum of 100 retweets by the time that they conducted their analysis. They noted that this would minimize the potential for shining an "unwanted spotlight on previously obscure content" or "exposing relatively unknown users to unwanted public scrutiny."[67]

While the authors of this study recognize that they could have made some Twitter users unhappy by including their names or tweets in the report, they feel that their "ethical choices strike a balance between the individual rights of the parties to this conversation and the right of the public to know how a movement of such political significance rose to prominence online."[68] They also made it clear that anyone who felt they were harmed by the report should contact the authors to discuss ways of mitigating the harm of their inclusion, and that when they made the database of tweets available to the public after an embargo period, they would release only tweet IDs to limit access to material that had been deleted or otherwise protected.[69] While the authors presumably retain the original content in their collection, outside users would not have access to at least some content that could be useful in an investigation or inquiry. This would of course protect creators from unwanted publicity, but it limits the value of the collection as a whole.

Conclusion: Tension Remains

A core tension remains after this analysis of the preservation of human rights-related video: whose needs are being met by its preservation and who ought to control the storage and use of this content? One perspective focuses on the need to preserve evidence of violations for justice and accountability efforts (both at the national and international levels), advocacy, and historical clarification. This position is most often voiced by international human rights organizations and institutions and their affiliates. Another viewpoint focuses on the ethical duty to protect individuals and respect their wishes even when higher-level justice and accountability efforts may suffer. People and organizations closer to actual production of evidence—whether they are activists or organizations that support them directly—most frequently express this view to me. Obviously most human rights practitioners recognize the value of both, but opinions differ on which one ought to be prioritized.

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[65] Steven Bingo uses this term in a similar way. See: Steven Bingo, "Of Provenance and Privacy: Using Contextual Integrity to Define Third-Party Privacy," *The American Archivist* 74 (2011), 506-521.

[66] See Sonia Yaco, "Balancing Privacy and Access in School Desegregation Collections: A Case Study," The American Archivist 73, no. 2 (2010), 637-668 for an excellent discussion of this issue in the context of U.S. school desegregation records. She highlights the legal distinction between disclosing private information and making it public. This could be a useful fulcrum for publishing some metadata regarding a particular video or image while not releasing the content itself.

[67] Deen Freelon, et al., *Beyond the Hashtags: #Ferguson, #Blacklivesmatter, and the Online Struggle for Offline Justice* (Washington, DC: Center for Media and Social Impact, 2016), 86.

[68] Freelon, et al., *Beyond the Hashtags*, 86.

[69] Ibid., 87.

Perhaps one possible source of guidance on this issue is the recent European Court of Justice's decision on the right to be forgotten, in which it recognized that citizens could petition to have online links removed from search engine results that contained inaccurate, inadequate, irrelevant, or excessive information, but that such requests would be subject to balancing tests against other fundamental rights. Specifically, decision makers would have to evaluate "the type of information in question, its sensitivity for the individual's private life, and the interest of the public in having access to that information."[70] The court ultimately made it clear that the individual's right to be forgotten must always be balanced with the public's right to know. While the ruling does not present a clear-cut answer for every case, it does provide a normative framework for determining whether or not content should be preserved and/or made accessible in the absence of explicit permission by the creator and those individuals portrayed in it.

A second source of guidance is the growing movement to erase the silences that exist in current archives, accountability efforts, and academic scholarship. These efforts rest upon the twin pillars of widening the scope of collection efforts, and giving the people whose lives are being documented a say in how these collections are created, stored and used. An excellent example in this context is the "Documenting the Now" project, which seeks to archive Twitter, social media, and Internet resources relating to activism surrounding race, police brutality and similar topics in the United States. The team leading this project acknowledges that our understandings of the past are "deeply tied to the traces that are created and remain in our archives," and that what is absent from archives speaks just as loudly as what is present.[71] Thus, preservation efforts have an obligation to ensure that no groups are being intentionally or inadvertently silenced, and that the people and communities whose voices and creations are being archived must retain at least some control over what is collected, how it is collected, and how these collections are governed in the future.

Acknowledgements

Bibliography

Aronson, Jay D., Shicheng Xu, and Alex Hauptmann. *Video Analytics for Conflict Monitoring and Human Rights Documentation*. Pittsburgh, PA: Carnegie Mellon University Center for Human Rights Science, 2015.

Baylis, Elena. "Tribunal-Hopping With the Post-Conflict Justice Junkies." *Oregon Review of International Law* 10 (2008): 361-390.

Behrnd-Klodt, Menzi L. and Peter J. Wosh, eds. *Privacy and Confidentiality Perspectives: Archivists and Archival Records*. Chicago: Society of American Archivists, 2005.

Bickford, Louis. "The Archival Imperative: Human Rights and Historical Memory in Latin America's Southern Cone." *Human Rights Quarterly* 21, no. 4 (1999): 1097-1122. https://doi.org/10.1353/hrq.1999.0048

Bingo, Steven. "Of Provenance and Privacy: Using Contextual Integrity to Define Third-Party Privacy." *American Archivist* 74 (2011): 506-521. https://doi.org/10.17723/aarc.74.2.55132839256116n4

Caswell, Michelle. "Defining Human Rights Archives: Introduction to the Special Double Issue on Archives and Human Rights." *Archival Science* 14, no. 3-4 (2014): 207-213. https://doi.org/10.1007/s10502-014-9226-0

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[70] European Commission, "Factsheet on the "Right to be Forgotten" Ruling (C-131/12)," accessed September 19, 2016, http://ec.europa.eu/justice/data-protection/files/factsheets/factsheet_data_protection_en.pdf. See also paragraph 81 of the original ruling, *Google Spain SL, Google Inc. v Agencia Española de Protección de Datos (AEPD)*, accessed September 19, 2016, http://curia.europa.eu/juris/documents.jsf?num=C-131/12.

[71] Maryland Institute for Technology in the Humanities, "Introducing Documenting the Now," accessed June 17, 2016, http://mith.umd.edu/introducing-documenting-the-now/.

--------. "Toward a Survivor-Centered Approach to Records Documenting Human Rights Abuse: Lessons From Community Archives." *Archival Science* 14, no. 3-4 (2014): 307-322. https://doi.org/10.1007/s10502-014-9220-6

Crunelle, David. "The Art of Being in the Wrong Place At the Right Time: Behind the Scenes of Social Media Newsgathering." (2016). Accessed September 19, 2016. https://medium.com/@emhub/the-art-of-being-in-the-wrong-place-at-the-right-time-behind-the-scenes-of-social-media-3ee558630e93#.7ls6u8wln.

European Commission. "Factsheet on the "Right to be Forgotten" Ruling (C-131/12)." Accessed September 19, 2016. http://ec.europa.eu/justice/data-protection/files/factsheets/factsheet_data_protection_en.pdf.

Danielson, Elena S. "The Ethics of Access." *The American Archivist* 52 (1989): 52-62. https://doi.org/10.17723/aarc.52.1.6m2m41171612j058

--------. *The Ethical Archivist.* Chicago: Society of American Archivists, 2010.

Freelon, Deen, Charlton D. McIlwain, and Meredith D. Clark. *Beyond the Hashtags: #Ferguson, #Blacklivesmatter, and the Online Struggle for Offline Justice.* Washington, DC: Center for Media and Social Impact, 2016.

Google Spain SL, Google Inc. v Agencia Española de Protección de Datos (AEPD). Accessed September 19, 2016. http://curia.europa.eu/juris/documents.jsf?num=C-131/12.

Greene, Mark A. "The Power of Meaning: The Archival Mission in the Postmodern Age." *The American Archivist* 65 (2002): 42-55. https://doi.org/10.17723/aarc.65.1.l914668v881wv19n

-------- and Dennis Meissner. "More Product, Less Process: Revamping Traditional Archival Processing." *The American Archivist* 68 (2005): 208-263. https://doi.org/10.17723/aarc.68.2.c741823776k65863

Gregory, Sam. "Do We Need a Dedicated Repository for Human Rights Media?" (January 2015). Accessed June 17, 2016. http://blog.witness.org/2015/01/one-human-rights-archive/.

Harris, Verne. "Claiming Less, Delivering More: A Critique of Positivist Formulations on Archives in South Africa." *Archivaria* 44 (1997): 132-140.

--------. *Archives and Justice: A South African Perspective.* Chicago: Society of American Archivists, 2007.

Hobbs, Catherine. "The Character of Personal Archives: Reflections on the Value of Records of Individuals." *Archivaria* 52 (2001): 126-135.

International Council on Archives Human Rights Working Group. "Basic Principles on the Role of Archivists in Support of Human Rights (Draft)." June 21, 2014. Accessed June 9, 2016. http://www.icarchives.webbler.co.uk/15999/news-and-events/basic-principles-on-the-role-of-archivists-in-support-of-human-rights-give-your-opinion.html.

International Criminal Court. "eCourt Protocol." Accessed June 15, 2016. https://www.icc-cpi.int/iccdocs/doc/doc1695618.pdf.

Jimerson, Randall C. *Archives Power: Memory, Accountability, and Social Justice.* Chicago: Society of American Archivists, 2009.

Joinet, Louis. "The Administration of Justice and the Human Rights of Detainees Question of the Impunity of Perpetrators of Human Rights Violations (Civil and Political)," E/CN.4/Sub.2/1997/20 (26 June 1997).

Koettl, Christoph. *Citizen Media Research and Verification: An Analytical Framework for Human Rights Practitioners.* University of Cambridge Centre of Governance and Human Rights, 2016.

Piracés, Enrique. "Trusted Timestamping." Accessed September 19, 2016. https://www.rightslab.org/vault/faq.php#Trusted_Timestamping.

--------. "VideoVault." Accessed April 24, 2017. https://www.bravenewtech.org.

Quintana, Antonio González. *Archival Policies in the Protection of Human Rights.* Paris: International Council on Archives, 2009.

Responsible Data Forum. "Managing Data: Setting Up the Data Infrastructure." Accessed June 15, 2016. https://responsibledata.io/resources/handbook/chapters/chapter-02-managing-data.html#a-home-for-healthy-data.

Rieff, David. *In Praise of Forgetting: Historical Memory and Its Ironies.* New Haven: Yale University Press, 2016.

Schwartz, Joan M. and Terry Cook. "Archives, Records, and Power: The Making of Modern Memory." *Archival Science* 2 (2002): 1–19. https://doi.org/10.1007/BF02435628

Silverman, Craig. *Lies, Damn Lies, and Viral Content: How News Websites Spread (and Debunk) Online Rumors, Unverified Claims, and Misinformation.* New York: Tow Center for Digital Journalism/Columbia Journalism School, 2015.

--------, ed. *The Verification Handbook.* Maastricht, the Netherlands: European Journalism Center, 2013.

Stevenson, Karen. "Curating Eyewitness Videos for Data on Transphobic Violence." (June 2016). Accessed September 19, 2016. https://lab.witness.org/curating-eyewitness-videos-data-transphobic-violence/.

Stinnett, Graham. *Rebel Collectors: Human Rights and Archives in Central America and the Human Rights Commission of El Salvador and the Resource Center of the Americas, 1978-2007*. Winnipeg, Manitoba: University of Manitoba andUniversity of Winnipeg, 2010.

Trouillot, Michel-Rolph. *Silencing the Past: Power and the Production of History.* Boston: Beacon Press, 1997.

Tucker, Susan. "Tacitly the Work of Women: Personal Archives and the Public Memory of Families." In *Perspectives on Women's Archives,* edited by Tanya Zanish-Belcher and Anke Voss, 147-176. Chicago: Society of American Archivists, 2013.

Weld, Kirsten. *Paper Cadavers: The Archives of Dictatorship in Guatemala.* Durham: Duke University Press, 2014. https://doi.org/10.1215/9780822376583

WITNESS. "Activists' Guide to Archiving Video." (n.d.). Accessed June 15, 2016. https://archiveguide.witness.org/.

--------. "Ethical Guidelines: Using Eyewitness Videos in Human Rights Reporting & Advocacy." (n.d.). Accessed June 13, 2016. https://library.witness.org/product/video-as-evidence-ethical-guidelines/.

Yaco, Sonia. "Balancing Privacy and Access in School Desegregation Collections: A Case Study." *The American Archivist* 73 (2010): 637-668. https://doi.org/10.17723/aarc.73.2.h1346156546161m8

Information Communication Technologies in Atrocity Response and Prevention: Deepening Our Understanding of the Legal, Ethical and Practical Challenges

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Introduction

Much of the excitement in the past decade about the potential for new technologies such as mobile phones, wireless high-speed Internet, and social media software to aid in the prosecution of mass atrocities has evolved into deeper analysis of whether these tools can really do everything we thought possible. The development of the ICTs for atrocities research and response field is at a stage where praxis, the use of practice to inform the development of theory, is crucial. Deeper theory, grounded in empirical examples, can lead to better data collection and thus a better understanding of the impact of ICTs on atrocities response in both research and practice. This collection of articles theoretically and empirically pushes these issues further, building on existing policy and field experience to develop frameworks that can guide both empirical research and policy development for using ICTs in atrocities monitoring.

The articles in this Special Issue invite readers to think about how the relationship between digital technology and atrocities response has evolved over the past 15 or so years. Levinger's analysis of the United States Holocaust Memorial Museum's (USHMM) *Crisis in Darfur* and Amnesty USA's *Eyes on Darfur* offer a good starting point for understanding how the ICT for atrocities response field has developed.[1] Specifically, we may ask how this evolution has created the need for better theoretical and practical frameworks for ethics, privacy, and technical acumen in the humanitarian and human rights communities. Levinger's examples of digital data collection on mass atrocities relied on commercial satellite imaging and trusted reporters on the ground. This method evolved rapidly in 2008 when *Ushahidi*, a mapping and crowdsourcing platform, was designed in a matter of days in Kenya to allow citizens to report on violence via text message. The messages could then be coded and visualized on a map for the public to see. This piece of software, developed by a small group of Kenyan lawyers, journalists, and developers to gather local data and provide a voice for Kenyans affected by the violence, brought the process of crowdsourcing, big data, and ICTs to humanitarianism's center stage. This shift to using data submitted by the public via mobile phone and social media introduced a host of ethical, risk management, institutional, and legal issues, many of which we are only fully grasping nine years after *Ushahidi* was initially deployed.

This context raises serious thematic and methodological questions regarding how we study the role of ICTs in mass atrocities response. The theme is inherently cross-cutting: within this collection of articles are references to law, political science, anthropology, public administration, and informatics with a particular focus on the need for a corresponding pedagogy to learn about data collection through the use of ICTs to respond in distinct phases of mass atrocities.[2] The mix of fields makes defining a driving research methodology difficult. Indeed, it could very well be that there is not yet enough data available to measure the causal impact of ICTs on mass atrocities response. Nathaniel Raymond and Kristin Bergtora Sandvik's contribution to this collection focuses instead on establishing ethical norms for engaging in the scientific process of using population-generated data to better understand the impact of ICTs on localization outreach as well as developing new tools and methods for data gathering.[3] Theirs is a concern pertaining to risk consciousness as ethical

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[1] Matthew Levinger, "Geographical Information Systems Technology as a Tool for Genocide Prevention: The Case of Darfur," *Space and Polity* 13, no. 1 (2009), 69-76.

[2] Colette Mazzucelli and Anna Visvizi, "Querying the Ethics of Data Collection as a Community of Research and Practice The Movement toward the 'Liberalism of Fear' to Protect the Vulnerable," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017), 2-8.

[3] Nathaniel Raymond and Kristin Bergtora Sandvik, "Beyond the Protective Effect: Towards a Theory of Harm for Information Communication Technologies in Mass Atrocity Response," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017), 9-24.

practice, which informs the articles in the Special Issue. The meta level argument is practically grounded in Karen Naimer, Widney Brown and Ranit Mishori's article on the *MediCapt* mobile phone application, which is used for gathering forensic evidence of sexual violence in conflict-affected contexts, namely, the Democratic Republic of Congo, with implications drawn for other areas in which Physicians for Human Rights is engaged in the field.[4]

The two articles converge in a challenging space: we can build technology applications that serve the technical function of data collection, coding, and storage; yet, what are the ethical steps and processes necessary to go from data collection to the inherently open process of scientific analysis and public peer-review? In 2013, the ICRC released its updated Professional Standards for Protection Work, which included specific processes and considerations for effectively and ethically gathering and using data collected via ICTs in conflict-affected and humanitarian contexts.[5] This study represented a start; yet, given the complexity of the digital environment, we need to push farther. The methods, tools, and procedures that have guided human subject research for the last 50 years, while informative, are less well suited for managing the legal, ethical, and technical challenges that come with using ICTs in mass atrocities research. Raymond and Sandvik challenge readers to think more comprehensively about the ethics of using ICTs in atrocities research, pedagogy, and response. In this context, as the field expands, we may have the necessary normative and ethical bases to use the ICT-gathered data effectively for research and practice.

While Raymond and Sandvik make a theoretical argument for defining ethics that can feed back into the scientific process of understanding ICTs in atrocities response, Christoph Koettl focuses on the practical issues of how to use satellite and mobile phone data to gather more accurate information about atrocities.[6] He outlines a very real challenge for NGO and human rights organizations: getting the correct information out to the policy makers and public while limiting the risk that an organization will report false information and damage its credibility. His analysis is both descriptive, in terms of techniques for using imaging and cellular phone video data to verify incidents, as well as instructional in that it explains the steps organizations can take to improve their own capacity for using these tools. The article speaks to a broader issue in the innovation for public good space: What do organizations that innovate in this space look like? Koettl discusses the need for training of staff; yet, for the wider field of atrocities research and response, a larger question persists in how organizations build staffs that have the technical know-how to use these tools effectively and safely. This builds on work by Martin-Shields which argues that a key aspect of effectively using ICTs in humanitarian organizations is training of staff.[7] In a world where non-technical users have access to open source software, a key way to make sure data is ethically captured and analyzed is to build knowledge of best practices among non-technical staff.

Ethics and operations also require technology for gathering and archiving ICTs-gathered data. This is a space that has received less coverage in part because of the stove-piped nature of how we address mass atrocities. These stove pipes broadly include the research, advocacy, and legal fields. They aim to answer interrelated, yet different, questions: *why* do atrocities happen; *what* are the atrocities that are happening; and *how* do we prosecute future atrocities? Binding all these questions are the processes for gathering new data and then archiving data as evidence so that standards required for research, advocacy, and legal validity are met. Jay Aronson discusses the legal and informatics issues involved with archiving digital content on atrocities, exploring the important yet easily overlooked aspects of how digital archiving alters the underlying information

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[4] Karen Naimer, Widney Brown and Ranit Mishori, "*MediCapt* in the Democratic Republic of the Congo: The Design, Development, and Deployment of Mobile Technology to Document Forensic Evidence of Sexual Violence," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017), 25-35.

[5] ICRC, "Professional Standards for Protection Work," accessed January 20, 2017, https://www.icrc.org/eng/assets/files/other/icrc-002-0999.pdf.

[6] Christoph Koettl, "Sensors Everywhere: Using Satellites and Mobile Phones to Reduce Information Uncertainty in Human Rights Crisis Research," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017), 36-54.

[7] Charles P. Martin-Shields, "The Technologist's Dilemma: Ethical Challenges of Using Crowdsourcing Technology in Conflict and Disaster-Affected Regions," *Georgetown Journal International Affairs* 14, no. 2 (2013), 157-163.

about a video, image or social media post.[8] These kinds of informatics issues can prove crucial when an organization is trying to determine the location an image came from or establish a chain of custody during legal proceedings. In this way, Aronson's and Naimer, Brown, and Mishori's articles are thematically reflexive. Read in relation to each other, they improve our understanding of how to gather information and the issues that will arise when it is time to archive the data for later use.

Providing a bridge between Raymond and Sandvik's and Naimer, Brown, and Mishori's articles is Stefan Schmitt and Dallas Mazoori's contribution on the role of DNA technology in identifying victims of mass atrocities.[9] Schmitt and Mazoori bring a legal approach to discussing and laying out the ethical standards that the state and response agencies must meet in order to serve the needs of victims and families. This article is compelling from an academic perspective since it lays out the complex legal issues around identification and data ownership. As a practitioner, their analysis spoke to me because its premise is based on what responders owe victims. Schmitt and Mazoori provide a micro-level argument pointing out that DNA data collection must lead to identification of the victim both for legal and humanitarian purposes. How does technology, whether it be DNA, sensors or satellite imaging, help humanitarians and governments achieve legal ends such as repatriation of the dead or the rights of families to know the truth about a victim's whereabouts? These are questions that can be asked at all levels of technology use in atrocities response and are best asked before developing a new tool or beginning a new data collection process. At times, especially when working with tech and data, it is easy to lose sight of the fact that we are dealing with traumatized societies and families; for humanitarians and responders the questions that Schmitt and Mazoori raise can help keep the focus on how best to support and provide for victims of atrocities and their families as well as their local communities.

What this Special Issue provides for those working in atrocities research and response are 1) new analyses of what we have learned over the past fifteen years using ICTs in our work as well as 2) new analytical and theoretical frameworks for how to continue moving the study of mass atrocities forward ethically and effectively in an increasingly digital environment. These articles, taken collectively, also demonstrate the inherent challenges with creating a unified stream of research in a field, which is, by nature, multidisciplinary. Indeed, what ICTs may be doing is easing those of us involved in research, advocacy, and response out of our stovepipes and into what is, at the moment, both a challenging discussion and a critical need for pedagogy about how to bring the best of our fields together in responding to mass atrocities. ICTs provide the liminal space for researchers and activists, for educators and technical experts, to collaborate while the shape of this space is still developing. This collection of articles provides multiple reflexive levels of theoretical and practical analysis for scholars, advocates, and technologists to learn from – and to bond over – as we continue to push for justice, accountability, and a necessary response to the ethical imperative of "never again."

Bibliography

Aronson, Jay D. "Preserving Human Rights Media." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 82-99. http://doi.org/10.5038/1911-9933.11.1.1441

ICRC. "Professional Standards for Protection Work." Accessed January 20, 2017. https://www.icrc.org/eng/assets/files/other/icrc-002-0999.pdf.

Koettl, Christoph. "Sensors Everywhere: Using Satellites and Mobile Phones to Reduce Information Uncertainty in Human Rights Crisis Research." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 36-54. http://doi.org/10.5038/1911-9933.11.1.1440

Levinger, Matthew. "Geographical Information Systems Technology as a Tool for Genocide Prevention: The Case of Darfur." *Space and Polity* 13, no. 1 (2009): 69-76. https://doi.org/10.1080/13562570902781249

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[8] Jay Aronson, "Preserving Human Rights Media," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017), 82-99.

[9] Stefan Schmitt and Dallas Mazoori, "Jurisdiction, Privacy and Ownership: DNA Technology and Field Dynamics in Conflict Related Mass Fatalities," *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017), 55-81.

Martin-Shields, Charles P. "The Technologist's Dilemma: Ethical Challenges of Using Crowdsourcing Technology in Conflict and Disaster-Affected Regions." *Georgetown Journal International Affairs* 14, no. 2 (2013): 157-163.

Mazzucelli, Colette and Anna Visvizi. "Querying the Ethics of Data Collection as a Community of Research and Practice The Movement toward the "Liberalism of Fear" to Protect the Vulnerable." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 2-8. http://doi.org/10.5038/1911-9933.11.1.1493

Naimer, Karen, Widney Brown, and Ranit Mishori. "*MediCapt* in the Democratic Republic of the Congo: The Design, Development, and Deployment of Mobile Technology to Document Forensic Evidence of Sexual Violence." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 25-35. http://doi.org/10.5038/1911-9933.11.1.1455

Raymond, Nathaniel and Kristin Bergtora Sandvik. "Beyond the Protective Effect: Towards a Theory of Harm for Information Communication Technologies in Mass Atrocity Response." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 9-24. http://doi.org/10.5038/1911-9933.11.1.1454

Schmitt, Stefan and Dallas Mazoori. "Jurisdiction, Privacy and Ownership: DNA Technology and Field Dynamics in Conflict Related Mass Fatalities." *Genocide Studies and Prevention: An International Journal* 11, no. 1 (2017): 55-81. http://doi.org/10.5038/1911-9933.11.1.1452

Book Review: *International Responses to Mass Atrocities in Africa: Responsibility to Protect, Prosecute, and Palliate*

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Since the early 1990s, international interventions have grown in size and complexity. Kurt Mills, a Senior Lecturer in International Human Rights at the University of Glasgow and the Director of the Glasgow Human Rights Network, brings his wide experience to bear in exploring this complexity, paying particular attention to international efforts to respond to mass atrocities. Mills' book *International Responses to Mass Atrocities in Africa* details the complicated, and contradictory, nature of international responses to mass atrocities and explores the fine line that the international community must walk when fulfilling its responsibility to protect.

The core concern of this book is to answer the question: How have and should mass atrocities be addressed? The book does a good job of addressing the former, specifically; it explains the successes and failures of responses to past or ongoing mass atrocities and the challenges that arose in each instance. In doing so, this book provides interesting insights into the crucible in which the concepts of protection of civilians and responsibility to protect were forged. However, when addressing how the international community should respond to mass atrocities, the author provides few answers.

To craft his argument Mills assesses four case studies (Rwanda, the Democratic Republic of the Congo, Uganda, and Sudan) using a matrix of three main types of international responses: protection, prosecution and palliation, which he calls R2P[3]. We start with the belated and incomplete response to the Rwandan genocide as the book discusses the downside of humanitarian interventions. Mills makes a strong argument that the botched international response to Rwanda's genocide sets the stage for the conflict in the Democratic Republic of the Congo, covered in his next chapter. Here, Mills' case study details the difficult dynamics between civilian and military actors striving to find a coherent approach to protection and where the international community begins to assess the emerging idea of protection of civilians. This case highlights the disconnect between the normative promise of protection with realities on the ground. The Ugandan Case illuminated the important, and problematic, role of the fledgling International Criminal Court in responding to atrocities. Finally, the crisis in Darfur is cast as the first real test of the nascent responsibility to protect and illustrates the challenges of sovereignty as an obstacle to preventing mass atrocities and the international community's struggle to articulate what taking responsibility would actually look like.

Mills' R2P[3] typology allows the reader to see each case from three interacting, and often conflicting, perspectives: the military perspective of peace operations (protection), legal perspective of the International Criminal Court (prosecution) and the humanitarian perspective (palliation). This approach provides a more holistic view of each intervention than those available from works focusing on just one or even two of these aspects. These multiple perspectives also provide the two major takeaways from the book. First, even taken individually, there are moral ambiguities around any type of intervention. Second, when international interventions include two or more types of intervention there are political, practical, and normative trade offs that must occur; trade offs that might ultimately make the conflict last longer than if there had been no intervention at all.

Mills argues that moral ambiguities exist whenever the international community applies any one of the tools of his R2P[3] framework. In almost every case he is successful in showing how,

on one hand, each intervention provides aid in ways specific to the organization's key goals, i.e. providing shelter, disarming militants, etc. On the other hand, interventions also make atrocity situations worse, for example, the shelter provided by humanitarians also provides lodging for rebels. These dilemmas are well demonstrated in the case studies provided in the book. In Rwanda (Chapter 2) humanitarian efforts to help those fleeing the genocide also allowed the génocidaires time to establish a firm grip on power in refugee camps, giving them a base for future attacks. In Uganda (Chapter 4) the Ugandan government used the ICC to legitimize military action against the Lord's Resistance Army (LRA) while at the same time downplaying its own culpability for the atrocities. Though the moral ambiguities of international interventions are well known to those who study them, Mills adds value by placing three different types of interventions side by side to show that the ambiguities inherent in an intervention are an issue, not just for the particular type of intervention, but for all types of interventions attempting to address the mass atrocity.

Mills' main contribution comes when he connects the different types of interventions to each other. As Mills shows, when humanitarian, military and legal responses are combined, there are large political, practical and normative trade offs that must occur. At the core of this issue is the fact that each type of intervention has its own goals, Mills demonstrates that these end goals, while they overlap, may not align. In fact, when they are combined they may actually extend or foster conflict. Though these trade offs occur in every case study Mills provides, the intervention in Darfur (Chapter 5) is particularly telling. In Darfur, every aspect of R2P³ was in play to disastrous effect. The initial humanitarian intervention allowed the international community to put off deploying a military force to provide protection to civilians in conflict. When a force was deployed, it slowed the rate of killing but was unable to stop it. However, when the ICC issued an arrest warrant for Sudanese President Bashir, there was a backlash against both humanitarian and peacekeeping interventions, making their work that much harder. Each type of intervention at best hindered, and at worst endangered, the work of other actors. Beyond this, Mills argues that not only must interveners negotiate amongst themselves, but the very presence of one type of intervention may facilitate or prevent the application of another type of intervention. For example, the humanitarian interventions in Uganda and Darfur allowed the international community to initially avoid deploying forces to protect civilians addressing difficult political and security issues.

This book does a good job of problematizing the current tools in the human rights and humanitarian toolbox when it comes to responding to atrocities. It demonstrates not just how these tools are underused, but also that even when they are used they may undermine each other. Mills does a good job of pointing out where additional thought is needed in how the international community coordinates and configures responses to mass atrocities. However, there are two areas where this book falls short of its potential.

First, Mills' R2P³ framework is based upon an uneven interpretation of the original tenets of the Responsibility to Protect (R2P). The concept of the responsibility to protect, as enshrined in the 2005 UN Summit Outcome document, has three distinct pillars arranged in order of preference. The first pillar places responsibility for protection of a population with each individual state, the second calls for the international community to assist the state in providing that protection and the third, the first two having failed, states that the international community has a responsibility to take collective action to protect populations at risk. Collective action covers the gamut from dialogue to sanctions to military interventions. This conception of R2P clearly shows that military intervention is the last resort when addressing mass atrocities. However, in the R2P³ framework promoted by Mills in this book, protection is overwhelmingly understood as military intervention. The first two pillars of R2P and many of the tools provided in pillar three are given only cursory consideration. This means that the entire spectrum of protection from targeted development to capacity building to sanctions is not considered. This produces a very lopsided and, arguably incorrect, conception of what protection means. There continues to be a significant amount of debate at the United Nations as to the meaning and use of the responsibility to protect. However, one of the few things that is generally agreed on is that the responsibility for protection first and foremost lies with the state and any outside efforts, particularly those that involve interventions, are a distant last.

Second, Mills' final chapter poses and attempts to answer three overarching questions that arise at the intersections of protection, prevention and palliation. One, do labels such as war

crimes and genocide matter? Second, have international norms around human rights outstripped our ability to implement them and should states recognize limits to their responsibilities? And third, what is the cause for failed or delayed international responses to atrocity crimes? Is it the international bureaucracy or lack of political will? While these are important questions that deserve answers, they are not particularly new. Here, Mills misses an opportunity to draw on the insights provided by his R2P³ framework to help answer these old questions or to pose new ones based on the dilemmas unearthed by this more holistic assessment on international responses to mass atrocities. The chapter closes with the unsurprising conclusion that, while there have been significant developments in the way the international community conceives of human rights and humanitarian norms, how they respond to violations of these norms, either with efforts to protect civilians, prosecute the worst offenders or relieve the suffering of those most effected, still lags far behind the ideal.

This book is accessible for lay audience. Mills takes pains to provide definitions and the history of key elements in the book such as the evolution of humanitarian intervention, the ICC and the Responsibility to Protect. He also provides an adequate, if somewhat simplified, background on each of the case studies. It would also be of interest to those interested in moral and ethical issues in humanitarian intervention and the evolution and impact of the ICC.

Book Review: *The Betrayal: The Nuremberg Trials and German Divergence*

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The Betrayal: The Nuremberg Trials and German Divergence
Kim Christian Priemel
Oxford, Oxford University Press, 2016
481 Pages; Price: £65 Hardcover

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Books on the Nuremberg trials are many, and Kim Priemel's *The Betrayal* is one of the most ambitious. What makes Priemel's study stand out is the scope of research, the breadth of analysis, and a well-defined thesis. What Priemel attempts in a single monograph is quite impressive. He assesses judicial proceedings of fifteen interrelated trials between 1945 and 1949 involving a total of 205 defendants. The transcript of the International Military Tribunal at Nuremberg (IMT) alone takes up 16,793 pages, plus the 4,600 prosecution exhibits. The subsequent twelve trials (NMT) left as significant a paper trail: 135,000 pages of transcript and more than 185,000 pages of trial evidence. Not to stop at trial proceedings, numerous memoirs, and scholarly publications, Priemel has done research in forty-four (!) different archives and research libraries for his book. What scholars and college students would probably appreciate most about Priemel's study is his ability to weave all the tribunals into a single, uninterrupted narrative.

The four countries occupying the prosecution stand—the United States, the Soviet Union, the United Kingdom, and France—arrived at IMT with different legal backgrounds and political agendas. That alone makes it fairly difficult construing a single overarching thesis, which would also cover the subsequent trials. Priemel believes he succeeded at that by developing a discourse on German divergence. According to Priemel, the Allies essentially determined that Germany as a nation was redeemable. This notion comes from a broader intellectual discussion whether Germany belongs to Western Civilization or not. A majority of scholars—many of them refugees from Nazi Germany in the United States—answered this question in the affirmative. Consequently, the prosecution built its case on the premise that the defendants betrayed the best interests of the German nation by veering off the Western liberal tradition.

The thesis in itself is convincing, insofar as it projects the American perspective on the trials. This caveat exposes a structural crack in Priemel's argumentation. Priemel argues against the notion that the Nuremberg was essentially an American project—the case typically made by the defense council. Yet the facts that Priemel cites undermine his conclusion. As he writes on page 71, "between the four Allies, the US were now firmly in the driver's seat," and again on page 222, "the NMT functioned very much like American courts." The US delegation at the IMT was nearly as large as the other three combined and many a legal innovation were American. Major figures in the Nazi German leadership were in US and British custody. The Americans toyed with the idea of staging a trial all by themselves, but eventually opted for an international tribunal in the spirit of wartime cooperation. By the same token, with the Cold War in full swing, the United States made a conscious decision to carry out the subsequent trials singlehandedly.

The Soviets, as Priemel attests, had a threefold agenda at IMT: to condemn Hitler's regime, to extract reparations, and to conceal their own unsavory deeds such as the Secret Protocol to the 1939 Molotov-Ribbentrop Pact. The Soviets were not the only one whose reading of German history differed from that of the Americans. The French, too, appeared to be primarily interested in checking the German aggression once and for all. In effect, these two delegations made a cause for Germany's foretold derogation rather than divergence The British, for their part, though not in opposition to the American baseline, were preoccupied with the legal aspect of the IMT. The four opening statements were complimentary, except in those parts that contradicted each other.

There are a few other discursive threads in Priemel's book one may take issue with. Priemel construes the Nuremberg trials as a quintessential example of transitional justice, from dictatorship to democracy and from the Nazi war of extermination into the Cold War. There is an unintentional element of circular logic in Priemel designating it as transitional proceedings first and then arguing that in this very capacity the Nuremberg served as both the subject and object of history-making. A larger issue that the Nuremberg trials had bequeathed us is whether history didactics belong in a court of law. Priemel's unequivocal yes represents one side in an ongoing debate.

The few problems with Priemel's interpretation put aside, *The Betrayal* is a remarkable work of scholarship. Priemel delivers on his promise to produce a truly comprehensive history of Nuremberg. Despite the ideological divide, the four delegations tacitly agreed that prosecution of major Nazi war criminals should entail a rehabilitative element, yet all defendants should be convicted in the end. On certain issues, such as linking slave labor to the Nazi war of aggression, the Soviets and the Americans saw eye to eye. When it comes to the Nazi mass murder of the Jews, the Soviet exposé proved to be the most detailed. The gruesome atrocities perpetrated by some of the defendants did not match up to their physical appearance, though. Legal teams and the general public alike were disappointed to see in the dock non-descript individuals rather than proud Aryans they claimed to be. The defense council did not try to negate the crimes committed by their clients, using such strategies as evoking non-retroactivity and superior orders. Another popular tactic was shifting blame onto the deceased Nazi leaders. Thus, Hitler's name was mentioned some 12,000 times during the IMT. At the end of the day, the defense lawyers were more or less satisfied with the verdict. The double concept of *conspiracy* and *aggressive war*, central to the American approach, obviously did not work very well. Despite this and other shortcoming, the IMT was nevertheless a success. Priemel believes the prosecution made a convincing case, whereas the judges' backstage compromises never became public knowledge. Most crucial, the IMT made it virtually impossible for ordinary Germans to claim ignorance of the mass crimes committed in their name.

None of the Allies showed much enthusiasm for a second IMT. The US military weighed in on the internal debate, expressing a preference for war crimes trials in the American zone of occupation. By the time the IMT pronounced its verdict on October 1, 1946, working together with the Soviets was no longer in the cards. The newly appointed chief prosecutor Telford Taylor identified several categories of defendants, specifically within the industrial circles, the SS, the police, and the military. While the focus of the subsequent trials was narrowed down, Priemel argues that their overarching objective became more ambitious, namely to explain the workings of the Nazi regime. Some of the trials never got off the ground due to lack of proof, interest, and/or star defendants, for example the destruction of Warsaw or the Reich Main Security Office (RSHA). Among those trials that did take place, Taylor and his staff prioritized IG Farben, Krupp, Ministries, and High Command. As the medical experiments on humans made for a strong impact in the IMT, Taylor decided to start off with the so-called Doctors' case. The Medical Case promised to be an easy and quick trial with convictions all assured. When it comes to the professed goal of making the historical record straight, the didactical value inbuilt in this and other trials did not serve the purpose. To give just one example, the emphasis put on medical experiments downplayed the significance of the Nazi euthanasia program. As Priemel speculates, it had to do in part with the delicate issue of international eugenics—accepted as science during the interwar period, also in America—versus German racial hygiene. What the prosecution sought was metaphor, linking the men in the dock to the Nazi regime via their professional affiliations, thus underlining the German divergence thesis. The Cold War punched further holes in the historical master narrative, as illustrated most potently by the High Command trial. The October 1948 verdict occurred in the midst of the Berlin blockade and preceded the establishment of West Germany by seven months. By that time, it was already the Soviets who gained the status of a chief villain.

From the perspective of Holocaust studies, one of the most important cases was that of the Einsatzgruppen. Counterintuitively, Justice Robert Jackson did not make the SS case a centerpiece of the IMT. Priemel explains that, ironically, it did not fit well into the historical narrative Jackson was building. So overwhelming was the evidence of mass murder in the shape of notorious Einsatzgruppen reports that it nearly seemed lacking in complexity and storyline. Neither did Case 9 contribute much to the legal analysis of genocide. By making a case for pathology of

the SS leadership, the prosecution engaged in oversimplification. Furthermore, it unwittingly marginalized other Reich agencies. The closer the defendant might be tied up to Himmler's SS, the more likely was a death penalty (in many cases subsequently commuted to life imprisonment and eventually early release). Priemel concludes that, on balance, the SS defendants fared worse than others in the NMT, yet better than expected at the outset of the trials.

The evidence of Nazi criminality that emerged from the Nuremberg has long been superseded. There is no doubt, however, that Germany's path after 1945 might have been different without it. I fully share in Priemel's conclusion that no story of political reconstruction of Germany is possible without a reference to the Nuremberg precedent. *The Betrayal* is a superbly researched and argued book on its way to becoming a standard work.

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Making and Unmaking Nations: War, Leadership, and Genocide in Modern Africa
Scott Strauss
Ithaca and London, Cornell, 2015
386 Pages; Price: $79.95 Hardback

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Genocide occurs with disturbing frequency. A large body of research from scholars writing in a variety of disciplines seeks to explain why genocides happen. This scholarship has identified factors associated with genocide—such as armed conflict, autocratic governments, ethnic divisions, and a low level of trade openness—and has led to the development of advanced statistical models to forecast genocide. Scholars and practitioners pay close attention to the possibility for genocide when new armed conflicts emerge or instability breaks out around elections or other contentious events.

Yet, while genocide is distressingly common, it is relatively rare when compared to the factors identified as associated with it. Many countries are autocratic, ethnically divided, and experience armed conflicts without genocide occurring. Forecasting models do a reasonable job of predicting occurrences of genocide but generate many false positives, in which the likelihood of genocide is seen as high but it does not happen. While the scholarship on genocide has made significant advances, it has been limited because it has tended to focus on cases of genocide without making comparisons to similar cases where genocide was plausible but did not occur.

In this excellent book, Scott Strauss sets out to advance the literature on genocide by theoretically and empirically treating it in a comparative context. Theoretically he does so by both analyzing the factors that encourage actors to contemplate genocide as well as the factors that encourage restraint when there is a real possibility of engaging in genocide. Empirically, Strauss conducts detailed case studies in which he compares cases of genocide to others where he argues genocide was possible, but did not happen.

Strauss's argument focuses on national elites, because he argues that genocide almost always requires elite coordination and, while local leader and individual participation is important, in the absence of leadership by national elites it is very unlikely. He argues that genocide is a type of political violence with a fundamentally different agenda than other kinds such as insurgency, terrorism, riots, or counter-insurgency because it is designed to eliminate a perceived enemy, rather than to change the behavior of that actor. As such, Strauss argues that elites will only contemplate genocide when they believe they face a grave and immediate threat.

The focus on threat is not new, in fact, it is one of the main arguments in the existing literature. However, Strauss views threat by itself as an insufficient explanation, as elites have multiple options for responding to grave and immediate threats and because these types of threats to leaders are much more common than genocide. Strauss argues that leaders, in the face of grave and immediate threats, will only choose genocide if preexisting ideological frameworks—which he refers to as "founding narratives"—view the primary political community (such as a specific ethnic group) as a sub-set of the overall population of the state and see a specific group of people as representing the threat to that primary community. It is thus the combination of the strategic environment (armed conflict which represents a significant threat) with ideology that determines when genocide occurs.

Strauss examines and develops this argument through five cases, two in which genocide and mass killing occurred (Rwanda and Darfur) and three that had similar circumstances as those two but where genocide did not occur (Cote D'Ivoire, Senegal, and Mali). All five cases are in Africa,

which allows him to hold constant a number of other factors that could influence genocide and also to examine the role of founding narratives in states that are relatively young.

Strauss's argument is most clearly supported in the case of Rwanda, which is also the case he has researched in the most depth. In Rwanda, there was a clear military threat, as the rebel Rwandan Patriotic Front had the upper hand militarily over the Rwandan army in a civil war at the signing of a peace agreement in the summer of 1993. That peace agreement led to a temporary suspension of hostilities, but was not fully implemented, and it broke down completely when the plane carrying Rwandan President Juvenal Habyarimana was shot down and he died. There has been much controversy over who is responsible for the downing of the plane, Strauss argues (and I agree) that it was almost certainly the RPF. To some degree the question is irrelevant, as many Rwandan Hutu elites believed the RPF shot down the plane to re-start the war, and the RPF did in fact return to the battlefield very quickly. Massacres of Hutu opposition politicians and Tutsi civilians began hours after the plane crashed, and over the next 100 days around 75% of the Tutsi resident population was killed.

All of these details are well known, and the typical story of the Rwandan genocide is that Habyarimana's plane being shot down allowed Hutu hard-liners in the Rwandan military to begin a genocide they had been planning for months. However, Strauss demonstrates convincingly, drawing on years of research by the International Criminal Tribunal for Rwanda as well as his own extensive field research, that the initial response to the resumption of the war was more focused on countering the RPF threat directly, and that the plan to wipe out the Rwandan Tutsi population developed in the days that followed. Genocide was enabled by the founding narrative that Rwanda was a state for the Hutu that had come into existence by both defeating the European colonizers and Tutsi-led monarchy and feudalism. This narrative allowed for overcoming forces for restraint at the individual, local, and national level and combined with the grave and imminent threat of the RPF (who did, three months later, win the war) to allow the slaughter of 500,000-800,000 Rwandan Tutsi.

The case of Darfur is an interesting one for Strauss. It has similar elements to Rwanda, in that the founding narrative of Arab-Islamic nationalism excluded a large element of Sudan's population. However, the Darfuri conflict had a key difference—while the RPF was a very real military threat to the Rwandan government, the Darfuri rebels never posed a direct military threat to the government in Khartoum. However, the fractious nature of politics in Sudan and the history of armed conflict meant that the government saw any threat to the Arab-Islamic identity of the state as grave and responded very harshly to it. In doing so, it worked with groups on the ground in Darfur who saw the rebels as a very real direct threat to their interests.

The three "negative" cases all share similarities with Rwanda and/or Darfur, but have key differences in the ideology guiding elite decision-making. In Cote D'Ivoire, international actors saw genocide as a real possibility, as two civil wars and controversial elections combined with the emergence of an explicitly nationalist ideology ("Ivorité") seemed to set the stage for mass categorical violence. Yet, the country avoided genocide, and Strauss argues that this is because of several domestic factors, the primary of which was the first President Houphouet's founding narrative emphasizing dialogue and multiethnicity. In Mali, like Darfur, a peripheral insurgency was fought between groups divided along a racial cleavage, but again genocide did not occur, which Strauss attributes to an elite-led ideological focus on dialogue as the way to resolve political disagreements. In Senegal a Christian ethnic minority has fought a long-running secessionist war against a majority ethnic group that is primarily Islamic and the conflict is very clearly perceived in identity terms. However, a founding narrative of pluralism prevented genocide from occurring in Senegal.

The five case studies in this book are very well researched and provide strong support for the theoretical argument. The reader of this book learns much about these individual cases, genocide, as well as nation-building in African states. I finished the book hungry for more, which is not a criticism, but rather a reflection of how stimulating and thought-provoking it is.

In particular, I would be interested in seeing more research in two areas. First, the book here is focused on Africa, a concentration which makes sense both for telling a clear story about nation-building there and from a research design standpoint. Strauss does make reference to other cases

outside of Africa, including Guatemala and Nazi Germany. However, it would be interesting to see how well the theoretical argument here works to explain cases outside of Africa, particularly in countries that are not nearly as new as the states studied here. In many cases, the "founding narratives" emphasized here were established at or soon after independence, less than fifty years before the events being analyzed and some of the people instrumental in these events were present at the formation of these narratives. Looking at states that are outside of Africa could allow for analyzing how and when founding narratives shift and the effect that this has on genocide.

The second area is related. I was persuaded by the discussion of the role of founding narratives in each of the five cases here. However, I was less clear on how one would identify a founding narrative prior to a period of crisis where it is anticipated to have an effect. While I find the argument here very helpful in understanding cases that have occurred, I wonder about the utility in predicting future genocides. Strauss provides a very helpful appendix focused on identifying the risk of genocide, but future research that established more objective indicators of ideological narratives that are likely to be related to genocide would be useful.

In summary, Strauss's book makes a clear theoretical and empirical contribution to scholarly understanding of genocide and the process leading up to it. It should be required reading for anyone interested in understanding this important topic and should generate substantial additional scholarly research.

Book Review: *The Genocide Contagion: How We Commit and Confront Holocaust and Genocide*

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The Genocide Contagion: How We Commit and Confront Holocaust and Genocide
Israel W. Charny
Lanham, Rowman & Littlefield, 2016
244 Pages; Price: $38.00 Hardcover

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> *"Je Tue, donc Je Suis!*
> *I kill, therefore I Am!*
> I beat you, Descartes—mine is more powerful.
> You die. I live."[1]

Professor Israel Charny is an educator, family therapist, scholar, and clinical psychologist. He is among the founders of a discipline that we now call genocide studies. It is with the help of these four rhythmic lines—Charny's own, in fact, a snippet of a longer poem he wrote—that he introduces the reader to his latest courageous effort animated by his desire to understand the perpetrator of atrocity. *The Genocide Contagion* is an attempt to grasp why people kill and why they imbibe killing as existentially meaningful. "How could they do such a thing?" is Charny's starting point.[2] Charny's goals in undertaking this task are neither lurid nor voyeuristic. Rather, they are preventative: he seeks to stymie such a cancer from metastasizing in the first place. Charny does not endeavor to understand in order to forgive. His reformulation of Descartes is not one of *tout comprendre, c'est tout pardonner.* His language is open, but his tone remains firm: without understanding, there cannot be any deterrence.

In this regard, then, Charny's book situates itself within the burgeoning literature of perpetrator studies. One decade ago, in my own work situated within the field of international law,[3] I grappled with the conundrum that, when it comes to genocide and massive discrimination-based crimes against humanity, it seems that the violence—however deformed—is the product of those who conform to a social norm rather that deviate or depart therefrom. Bystanders and side-standers, moreover, also matter, without them, and without the many much more active collaborators, the furor of the conflict entrepreneurs would never normalize. Approaching these questions from his discipline of psychology, Charny's work also approaches genocide as an ecological, social, and collective phenomenon. Genocide cannot be unspooled without unfurling the effects of the group on the individual. Genocide cannot be meaningfully analyzed without looking at the "psychological processes at the core of the human psyche."[4] Again, this is not to excuse or dissipate; this is not to submerge the acts of the individual within the murky occlusion of the group. Rather, the purpose is to deracinate the etiology of mass atrocity.

In my opinion, the core contribution of Charny's book is to examine the linkages between violence in "everyday life" and violence in extraordinary times. Charny guides his reader through the connections between the cruel spouse, the indifferent bureaucrat, the abusive parent, the small-minded boss, and the narcissistic academic on the one hand, and the functionary of atrocity, on the other. By focusing on the harshness of human agency in the everyday, Charny calls in to question

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[1] Israel W. Charny, *The Genocide Contagion: How We Commit and Confront Holocaust and Genocide* (Lanham: Rowman & Littlefield, 2016), 20.

[2] Ibid., 23.

[3] Mark A. Drumbl, *Atrocity, Punishment, and International Law* (Cambridge, UK: Cambridge University Press, 2007).

[4] Charny, *The Genocide Contagion,* 31.

the uniqueness of genocide. He reminds us that when we intone "never again" it is because that "again" could happen anywhere and, in fact, happens in little bits and pieces in ordinary time in the blandest and balmiest of moments. Thwarting hatred in public life begins by purging hatred in private life. Charny's bold fusion of the extraordinary to the everyday, of the massive to the mundane, shatters scale in favor of substance, just as it favors cause over effect. Charny's efforts are groundbreaking in coming to terms with the psychology of mass violence.

Charny's book achieves three major goals. First, it elucidates why people inflict grievous pain upon others, and how the social kinetics of this pain become contagious, like a virus: a spreading, thickening stain that gives rise to the book's title. It is here that the book contributes great heft and gravitas to the "new" field of perpetrator studies, championed elsewhere by scholars such as Christopher Browning, Vahakn Dadrian, Alex Hinton, Alette Smeulers, and Barbora Holá. Second, Charny's book obliges the reader to question him or herself in the everyday, to assess his or her own quotidian lapses and agencies, with a view to interrogate whether the concatenation of daily duplicities, "creative deceit,"[5] and imposed humiliations could, in turn, gel into a fertile basis for extirpation. Charny actualizes these moments of reflective rumination through his deployment of a number of exercises (independent study questions) and thought experiments in which he invites the readers' participation. Thirdly, Charny makes it clear that, although genocide is a social tragedy contoured by the collective, the elements that fuel genocide are not culturally reductionist – these elements, and discomfiting glimmers thereof, can arise anywhere and everywhere. Charny's courageous work on attitudes of Israeli students and soldiers,[6] his advocacy for the universal need to condemn all genocides, and his exposition of the horrors of denialism(s) ground a book that challenges, compels, and convinces all at once.

Charny does not explore all types of perpetrators. One type that slips through his book is the victim who victimizes others. Members of the persecuted group may come, largely by coercion and survivalism, but also by opportunism to persecute other members. Here is the "grey zone," of which Primo Levi eloquently wrote and of which Tim Blake Nelson made a haunting film of the same title in 2001. Nelson's film portrays *Sonderkommando* Group XII. This group led a rebellion at Auschwitz that destroyed several of the crematoria, yet all the while its' members eked out more months of life and alcohol and unheard of rations in exchange for their services incinerating the bodies of the dead who while alive they had led into "delousing." Other than a series of trials of *Kapos* and ghetto police held in Israel in the 1950's and 1960's, the role of the oppressed in "prisoner self-administration" in the Nazi camps has been poorly understood by law. It is Levi, and other expositors of the iniquities of Auschwitz, who have addressed the phenomenon of these utterly compromised perpetrators. Perhaps psychology has something to contribute as well.

Delivered in lively, accessible, and approachable format, *The Genocide Contagion* is suitable for a broad array of audiences and learners. Charny neither minces words nor overloads (or overlords) with agony. His work is neither human rights stenography nor human rights pornography. Charny emphasizes the capacity of the human spirit to harm and to recover, to injure and to atone: and, all the while, he maintains a cool faith in the power of pedagogy, prevention, and perseverance in draining the contagiousness of genocide and ultimately eradicating this blight upon humanity.

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[5] Ibid., 136.

[6] Set out in the Appendix, pp. 185-197.

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The Magnitude of Genocide
Colin Tatz and Winton Higgins
Santa Barbara, Praeger, 2016
296 Pages; Price: $63.00 Hardcover

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Given that genocide studies is no longer a field in its infancy, it has generated surprisingly few overarching introductions to its subject matter.[1] This is one reason to welcome Colin Tatz's and Winton Higgins's new volume, *The Magnitude of Genocide,* in which the authors seek to produce a comprehensive framework for understanding how genocide should be conceptualized and explained, illustrated by presentations of a wide range of historical and recent cases. Their project is organised into four parts: first, a discussion of the definition of genocide and the evolution of its practice from premodern to modern times; second, a lengthy five chapter analysis of "genocide at work"—the causal dynamics involved in producing genocide and determining the character of particular cases, as well as rescues and interventions; third, an analysis of the contrasting ways states behave in the aftermath of genocide; and finally, a consideration of the trends of genocide into the future, and the prospects for its prevention.

There is much to commend here. *The Magnitude of Genocide* is impressive for its historical and geographical reach. Whilst "classic cases" such as the Holocaust and Armenian Genocide recur with some frequency, Tatz and Higgins make a much more sustained effort than most to bring a broader universe of genocides to the reader's attention. Alongside a plethora of premodern cases, the authors give attention to violence in Burundi, Rwanda, Mao's China, Darfur, the Nuba Mountains, Bangladesh, East Timor, Liberia, Cambodia, the Ukrainian Holodomor and the wars in Yugoslavia, plus colonial rule in Canada, Australia, German South West Africa, the Congo, and Ireland, as well as recent atrocities by Daesh. Tatz and Higgins' extensive consideration of cases perpetrated by Western democracies or their colonies, alongside those of more obviously vicious regimes, is particularly welcome, and the general empirical breadth supports the authors' analysis of genocide throughout the book. However, its strongest sections—perhaps reflecting the balance of their past work—offer impressive analyses of the contrasting ways groups and organizations *respond* to genocide. Chapter 8 provides an excellent comparative discussion of several cases of rescue, resistance, and intervention, contrasting these with cases of inaction, passivity, and bystanderism by states and non-state actors. Two lucid chapters follow on "Denialism" and "Punishment and Impunity"—the latter (bar a slightly dismissive critique of reconciliation efforts in South Africa), provides a particularly informative overview of successes and failures in efforts to create an effective punitive regime for genocide.

These are all real strengths, but this is an uneven book with some significant weaknesses. For a start, whilst the prologue and opening chapter emphasize that the book "offers neither a compendium nor an encyclopaedia of genocide," Tatz and Higgins are strangely vague on what this book does seek to contribute, beyond the very general claim to "present a framework of concepts and ideas for a better understanding of the nature and place of genocide in human history."[2] At least two more contributions are implied but remain elusive. First, Tatz and Higgins repeatedly express

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[1] Two notable exceptions are: Adam Jones, *Genocide: A Comprehensive Introduction*, 2nd ed. (New York: Routledge, 2010); Scott Straus, *Fundamentals of Genocide and Mass Atrocity Prevention* (Washington D.C.: United States Holocaust Memorial Museum, 2016).

[2] Colin Tatz and Winton Higgins, *The Magnitude of Genocide* (Santa Barbara: Praeger, 2016), 15.

the hope that their book will help efforts to prevent genocide's recurrence. Perhaps any book that generally helps people understand genocide supports this objective indirectly, but *The Magnitude of Genocide* makes few more concrete contributions to genocide prevention. Its valuable comparative analysis of past cases of rescue and intervention is, unfortunately, not used as a basis for any detailed prescriptive conclusions. The one section which does consider future prevention, in the last few pages of the book's closing chapter, is esoteric: Tatz and Higgins briefly declare the need to wage a conventional ground war against Daesh before, in a section awkwardly titled "Genocide studies segues into a civics masterclass," suggesting that the future prevention of genocide requires a restoration of republican civic democracy in the West. This is not an uninteresting idea, but with a compressed exegesis in barely four pages it seems to reflect the authors' desire to digress on the problems facing contemporary democratic politics more than a serious examination of genocide prevention. Regrettably, there is little consideration of the specific challenges that presently vex preventive efforts in practice.

The second elusive project of the book is more puzzling. The prologue and opening chapter raise an argument that is, presumably, the source of the book's title: Tatz and Higgins suggest that "a metaphorical rather than literal Richter scale" for the magnitude of genocide should be developed, since "genocide studies needs to find common ground on terminology, and yardsticks with which to assess degrees and gradations of the crime."[3] This is an interesting albeit controversial claim—Tatz and Higgins acknowledge the need to avoid a rather gaudy "league table of horror."[4] Strangely, however, this argument then seems to disappear from the book until its very last page. Here, Tatz and Higgins abruptly state that whilst they "don't advocate a logarithmic or arithmetical scale of immensity and intensity…the resort to even a rough categorization of genocides into genocide 1, 2, 3 and 4 would help to distinguish between often dissimilar genocides."[5] This is the first time such a typology is mentioned and Tatz and Higgins provide no further explanation regarding what these different numbers would denote. It is a peculiar and confusing trajectory for the book's eponymous theme.

More generally, *Magnitude of Genocide* often leaves its more original and provocative ideas undercooked. Early mention is made of Tatz's concept of the "doctorhood of genocide"—the ideologues, professionals, and technocrats who provide the quasi-scientific intellectual backdrop to genocidal practices. But this idea is not developed in detail, and whilst it is used to set up a descriptive discussion of the professions generally involved in genocides,[6] Tatz and Higgins do not explain how this significantly advances understanding of why they occur. And whilst their associated claim that "too little research has focused on the occupational status of the major actors involved"[7] may be correct, it is undermined by the authors' neglect of several recent works which do seem to operate in this area (Michael Thad Allen's *The Business of Genocide* seems particularly notable by its absence). Another interesting suggestion is that the "gestation process" behind genocide is better understood as a "sequence of discursive shifts"[8] rather than—à la Gregory Stanton's *Ten Stages of Genocide*—a "model of discrete stages." Again, however, Tatz and Higgins do not explain *why* a model of discursive shifts is superior, instead spending most of their single page discussion simply outlining Stanton's sequence and their own. There is also no consideration of the main problem with schemas of this type—that they imply a singular and linear pathway to genocide, when most contemporary scholarship would emphasis dynamic processes and equifinality.

Ultimately, *The Magnitude of Genocide* is weakest in its attempt—largely in Part II—to convincingly synthesize causal explanations of genocide. Again, Tatz and Higgins marshal an impressive range of explanatory themes from existing scholarship, but these are haphazardly

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[3] Ibid., xiii.

[4] Ibid., 7.

[5] Ibid., 249.

[6] Ibid., 114 -122.

[7] Ibid., 114.

[8] Ibid., 113.

connected, and the two most prominent analytical devices deployed are not entirely convincing. First, Tatz and Higgins devote chapter 4 in its entirety to "The Race Factor," suggesting that "race and racism are the common denominators in modern genocidal history."[9] Given their very broad conception of racism—"all practices that arise from a labelling and stereotyping that inevitably carries with it undesirable (and intractable) social characteristics"[10]—this strong explanatory prioritization of race may be defensible, and it is followed by some typically clear and illustrative consideration of specific cases. But this chapter is problematically untethered from much leading research on race, ethnicity, and mass violence—Tatz and Higgins make no mention of the extensive quantitative literature which finds weak correlations between ethnic fractionalization and mass atrocities, nor do they get to grips with the paradoxical picture that emerges from studies of the identity-mobilization that does occur. Briefly: genocide involves killing along lines of identity, yet it is increasingly clear that the identities and associated prejudices involved often appear to be weakly internalized by many perpetrators of genocide and their supporting populations. Modern scholarship has therefore gained considerable sophistication by studying the conditions under which such identities can be politically "activated," the complicated and interactive way in which those identities are constructed and negotiated (including the way they undergo critical changes *during* violence), and the specific and diverse causal mechanisms through which mobilisation of identity is actually implicated in practices of killing.[11] This is largely absent from Tatz's and Higgins's analysis of race, which therefore seems theoretically thin and not up to speed with contemporary thinking. Indeed, the authors are surprisingly willing to aver explanatory force to "ancient hatreds,"[12] despite the intense criticism this notion has received from most contemporary scholars.

The second major analytical theme Tatz and Higgins use to account for modern genocides is *modernity* itself. Again, this is familiar terrain for genocide studies, but the core of their argument rests on a rendition of liberal modernization theory that seems excessively crude. In the various available "routes" states can take to develop, Tatz and Higgins argue, "the liberal-democratic route leads to the most thoroughgoing modernization of civil society and the state, and can be achieved under relatively humane conditions."[13] By contrast, genocide—at least in Germany—was rooted in "the failure of the 'bourgeois revolutions' in the German sovereign states [that] blocked this kind of benign development and condemned them to the reactionary route into the modern world."[14] Parts of this argument are clearly plausible: democracy, a vibrant civil society and other associated liberal institutions can function as important restraints on genocide. But this does not mean that "proper" modernization can simply be identified with liberalism, and non-liberal orders treated as backward or reactionary deviations from history's proper course. Indeed, such an account of modernization generates considerable tensions within Tatz' and Higgins' own arguments. If a reactionary path to modernity is a precondition of modern genocides, why are liberal states apparently capable of committing them (and, certainly, capable of other forms of mass killing)? How can Tatz and Higgins claim, within a page of arguing that Germany's "reactionary modernization" explains the preconditions of the Holocaust, that "the German precedent warns us that [processes leading to genocide] can overtake any Western country"?[15] Or, if this "failed modernization" process is unique to the Holocaust, how can the Holocaust be the paradigm case from which we should

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[9] Ibid., 51.

[10] Ibid., 51.

[11] For example: Sarah Davies, "'Us Against Them': Social Identity in Soviet Russia, 1934-41," in *Stalinism: New Directions*, ed. Sheila Fitzpatrick (London: Routledge, 2000); Ronald Grigory Suny, "Why We Hate You: The Passions of National Identity and Ethnic Violence," *Berkeley Program in Soviet and Post-Soviet Studies Working Paper Series* (2004); Michael Mann, *The Dark Side of Democracy: Explaining Ethnic Cleansing* (Cambridge, UK: Cambridge University Press, 2005); Siniša Malešević, *Identity as ideology: understanding ethnicity and nationalism* (Basingstoke: Palgrave Macmillan, 2006); Scott Straus, *Making and Unmaking Nations: War, Leadership and Genocide in Modern Africa* (Ithaca: Cornell University Press, 2015).

[12] For example: Tatz and Higgins, *The Magnitude of Genocide,* 5, 84, 91, 99, 111.

[13] Ibid., 71.

[14] Ibid., 72.

[15] Ibid., 74.

develop generalizable theories of genocide?[16] To maintain the picture of a dysfunctional proto-modern German state, Tatz and Higgins are also led to some implausible empirical claims, such as the assertion that in World War I and II, Germany started two wars it was "bound to lose" and was dragged to defeat by an inevitable "Montesquieuian logic." This hardly matches most military histories of either conflict. Not all Tatz' and Higgins' observations on modernization are so awry, but the overall theoretical synthesis seems dubious.

This all imposes limits on how convincing *Magnitude of Genocide* is as an explanatory framework for the causes of genocide. Its' most intriguing ideas need development, its empirical breadth matched by greater depth, and a broader range of major recent scholarship bearing on causal questions better integrated. These flaws, however, are not fatal to the book's value. Several sections will be appreciated by students and scholars for their elegant introductions to the many elements of the historical record of genocide. Tatz and Higgins valuably clarify the contrasting ways states respond to genocide. And their volume sets high standards in its accessibility, the scope of its comparative analysis, and its balanced consideration of the history of genocide that future work would do well to emulate.

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[16] Ibid., 70.

Book Review: *The Rohingyas: Inside Myanmar's Hidden Genocide*

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The Rohingyas: Inside Myanmar's Hidden Genocide
Azeem Ibrahim
London, Hurst & Company, 2016
160 Pages; Price: $19.95 Hardcover

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At a time when the plight of the Rohingyas—a Muslim confessional group living in the Rakhine province of western Myanmar—are receiving increasing international attention, Azeem Ibrahim's new book is a timely intervention. The book's core message is plain and clear: Myanmar currently stands on the edge of genocide and without decisive action by the international community, the long-standing persecution, discrimination and violence the Rohingyas have suffered since Myanmar's independence in 1948 will escalate into full-scale genocide. The situation the Rohingyas have faced, and which they continue to confront, needs to be appreciated as a text-book case of pre-genocide, Ibrahim forcefully asserts. For almost seventy years, the Rohingyas have faced systematic oppression and persecution, which has been both orchestrated and facilitated by Myanmar's military regime: they have been denied legal citizenship and are therefore stateless in their own country; their economic livelihood has been dismantled through economic boycotts; their participation in electoral processes has been restricted; mosques in their local communities have been destroyed; restrictions have been placed on their ability to marry and to have children; their access to health and education has been curtailed; and there are regular attacks, massacres and acts of violence being committed against them.

Demonstrating how and why the situation faced by the Rohingyas merits the charge of genocide is, moreover, accompanied by a further objective, namely, to challenge conventional narratives that currently pervade contemporary political assessments of Myanmar. In doing so, Ibrahim presents a critical reassessment of commonly-accepted claims about Myanmar. Firstly, far from being a closed country that is internationally isolated, the military regime has consciously and consistently maintained external links with the rest of the international community. Secondly, the global praise Aung San Suu Kyi—the leader of the country's main opposition party, the National League for Democracy (NLD)—often receives for her long-standing commitment to a democratic future for Myanmar often obscures the fact that her domestic political support, as well as that of her party, comes almost entirely from the ethnically Burman community, who are mainly Buddhists. Like the military regime, therefore, the NLD has, and continues to have, a difficult relationship with non-Buddhist ethnic minorities in Myanmar. Finally, instances of inter-communal violence in Myanmar are not simply a predictable side-effect of the country's difficult transition from authoritarian military rule to democracy. Rather, Buddhism has played an instrumental role in facilitating inter-communal violence in Myanmar, particularly because it has been consciously employed by the military regime, as well as religious actors like Buddhist monks, to construct a nationalist discourse that is essentially exclusivist in character.

A greater appreciation of these political dynamics, Ibrahim argues, is central towards understanding how and why the Rohingyas have been the target of continued persecution and violence, as well as why there has been a conspicuous absence of domestic and international action aimed at reversing this state of affairs. While it is conventional to view Myanmar as an isolated state governed by military rulers who are deeply suspicious of external powers, Ibrahim pertinently demonstrates how this fear has co-existed with an economic imperative to maintain international trade links, as well as calculated decisions concerning Myanmar's approach to international relations. On the one hand, the military regime is cognisant that foreign investment

from regional powers such as China, India, South Korea and Australia—particularly in the spheres of telecommunications, oil, gas and real estate—presents it with significant economic and political dividends. Given the military's control over the Myanmar's economy, it is unsurprising that the regime personally profits from greater trade and investment links. However, these economic gains also brings significant political benefits for the military regime. Keen to safeguard their commercial interests in a country that presents them economic opportunities to exploit, regional powers presently investing in Myanmar are reluctant to either criticize the military regime for its treatment of the Rohingyas or to intervene in the matter directly.

On the other hand, the military regime has consciously made strategic foreign policy decisions, which additionally serves to shield its domestic policies, especially those in connection with the Rohingyas, from international pressure and scrutiny. Here, Ibrahim argues a calculated decision to make North Korea one of its key allies—a relationship that has been marked by the trading of food in exchange for advanced weaponry—provides the military regime with an important bargaining card vis-à-vis the United States (US) and the European Union (EU). Concern with Myanmar's relationship with North Korea effectively means Western states cannot afford to unnecessarily antagonize the military regime, as they fear it could force Myanmar to deepen its existing links with North Korea. The US and the EU, therefore, have had to content themselves with the limited democratic reforms the military regime has introduced within the country. And indeed, discernible political changes within the country—the current openness of its economy, an international-friendly opposition leader and freer national elections—have largely fed into the prevailing narrative that Myanmar is progressively moving, slowly but surely, towards democracy. According to Ibrahim, however, this has meant that the situation facing the Rohingyas has been dismissed as an inevitable bump along Myanmar's road to democracy, rather than being seen as an urgent matter that merits greater international attention.

Domestic political dynamics also fundamentally conspire against the Rohingyas, Ibrahim contends. Although Aung San Suu Kyi and her NLD opposition party are electorally popular, they are not, contrary to popular belief, a mass party with either widespread or entrenched political support amongst Myanmar's diverse ethnic groups. Rather, its electoral base comes primarily from the Burman ethnic community, who are mostly Buddhists. In order to maintain a political connection with the Burmese electorate, therefore, the NLD is fundamentally reliant upon Buddhist monks and consequently, it has formed alliances with organized Buddhist monks. Worryingly, this has included political dealings with the 969 Movement—a grouping of extremist, anti-Islamist Buddhist monks who have been instrumental in perpetrating and encouraging violence against Myanmar's Muslim communities. Despite its democratic credentials and its status as the country's opposition, therefore, the NLD has found it politically convenient to remain silent on the question of the Rohingyas and anti-Muslim violence. And indeed, Aung San Suu Kyi herself, Ibrahim notes, has frequently avoided direct comment when the question of the systematic persecution of the Rohingyas is raised. Popular connotations of Buddhism as a benign and peaceful religion—which, in turn, predominantly centre on images of yoga, meditation and mindfulness—fail to appreciate, Ibrahim therefore argues, how Buddhism in Myanmar has had a much more menacing role. In particular, the politically explosive way in which religion and politics has become intertwined in Myanmar has played a significant role in enabling the legal, political, economic and social persecution of the Rohingyas. The fusing of Buddhism and Burmese nationalism has, in Ibrahim's assessment, fundamentally contributed to an exclusivist nationalist discourse that presents Muslims and Islam as a fundamental threat, both to Buddhism's and that state's continued existence.

This, then, is not a book that simply makes a passionate plea on behalf of an ethnic group whose predicament has been domestically and internationally neglected. Rather, it is simultaneously a commentary on contemporary politics in Myanmar but crucially, one grounded in a deep appreciation of how Myanmar's colonial and post-independence history has contributed to some of the pressing political problems it faces today. The book, therefore, successfully speaks to multiple audiences. Historians will find Ibrahim's account of Myanmar's history especially interesting, particularly because he takes issue with contemporary historians who, like extremist Buddhist monks and the military regime, maintain that the Rohingyas were never original inhabitants of Burma. It bears mentioning, too, that for those unacquainted with the history and politics of

Myanmar, this book is an invaluable resource. In addition, political scientists and lawyers will find Ibrahim's analysis of the legal discrimination effected upon the Rohingyas through exclusionary citizenship laws bears relevance to broader politico-legal questions, such as how the legal machinery of the state can be utilized to achieve broader political objectives. And from his assessment of Myanmar's foreign policy and its external relations, international relations scholars will be able to draw important insights on what still remains an under-explored issue, namely, how a peripheral Southeast Asian state still manages to influence the contours of regional and international politics from the margins. Finally, Ibrahim's engagement with the scholarly literature on genocide will be of interest to both international lawyers and genocide scholars. Although his comparative analysis of the impending genocide of the Rohingyas with past genocides in Armenia, Germany and Rwanda is somewhat brief and cursory, it nevertheless invites more research, particularly from the perspective of genocide studies, to be conducted in connection with the Rohingyas.

The book concludes with a set of policy prescriptions, which are aimed at reversing the current state of domestic and international inaction over the Rohingyas. Cognisant that any solution would require action on multiple fronts, Ibrahim finds it crucial to focus efforts on the following: firstly, increase the levels of external pressure upon the military regime; refer past instances of mass violence to the International Criminal Court (ICC); and finally, intensify pressure on the domestic front. While this combination of domestic and international action appears politically constructive, Ibrahim's vision of the way forward raises a great number of questions, all of which are left unexplored in the book. For instance, Ibrahim identifies four key external actors – the United Nations (UN), the US, China and the Association of Southeast Asian Nations (ASEAN) – as having a role to play in increasing political pressure on the military regime for its treatment of the Rohingyas. However, exactly what this pressure should entail remains vague and unclear: international condemnation, sanctions, suspension of trade links, or outright international intervention? What is equally missing in Ibrahim's analysis is an assessment of the political feasibility, as well as the possible constraints, of different international policy options. Indeed, it would not be unreasonable to suggest that these four external actors have not acted more forcefully in the past because of a host of complex political factors – as opposed to simple inaction and indecision, as Ibrahim suggests.

Turning to his proposal concerning the ICC, Ibrahim rightly points out that Myanmar is not a signatory to the Rome Statute and as such, a self-referral to the ICC would not be possible in this instance. Nevertheless, Ibrahim is of the view that the ICC should, in fact, commence its own investigation into the Rohingyas. This, too, remains a vague suggestion. As international lawyers will point out, prosecutions before the ICC require the identification of perpetrators and as such, it is unclear who Ibrahim sees as the potential perpetrators that could be brought to account—key members of the ruling military regime, Buddhist extremist monks who are members of the 969 Movement, or a combination of both? Moreover, it remains unclear from Ibrahim's suggestion how the ICC itself can be cajoled into focusing its gaze on Myanmar and the Rohingyas. In particular, who has the power, influence and means to persuade the ICC to investigate the question of the Rohingyas?

Despite these questions, Ibrahim's book forces us to contend with a pressing issue of international concern. In doing so, it places the situation faced by the Rohingyas under a glaring spotlight, thereby urging us to appreciate and understand it as a political problem, which although intrinsically connected to Myanmar's history and ongoing political developments, that merits greater attention in its own right. On balance, therefore, this is an instructive book—not only for scholars and students with different disciplinary interests but also, for all of us who believes that the question of preventing and punishing genocide amounts to a shared, international responsibility.

Book Review: *The History of a Forgotten German Camp: Nazi Ideology and Genocide in Szmalcówka*

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The History of a Forgotten German Camp: Nazi Ideology and Genocide in Szmalcówka
Tomasz Ceran
London, I.B. Tauris, 2015
256 Pages; Price: $95.00 Hardcover

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Tomasz Ceran's work provides a microhistory of the establishment, thirty-three month existence, and functioning of one small Nazi camp called Szmalcówka, located in Toruń, northern Poland during World War II. In similarity with other camps of the vast Nazi camp network, the purpose and role of Szmalcówka changed over the course of its existence contingent on exigencies for the Germans at a given time. Established in 1940, the camp was initially described in German documents as a *Sammellager* (transit camp), later as an *Umwandererlager* (resettlement camp) and eventually, before it closed in mid-1943, as an *Arbeitserziehungslager* (educational work camp). Over the course of the German occupation, the initial organized transfer of people through the camp gave way to a fixed residency for forced laborers. This was followed by the permanent captivity of civilians and, undeniably, a premeditated expectation of the death of Poles, in particular, children who remained in the camp from secondary exposure to disease and starvation. Though never specified or functioning as a German *Vernichtungslager* (extermination camp) per se, Szmalcówka did serve as a camp in which mass murder through intentional malnutrition, overcrowding, inadequate response to sickness, injury, and life threatening disease prevailed. In addition, physical abuse and sporadic murder, not systematic execution, were commonplace. As Ceran relates, Attorney Małgorzata Wójcik summarized at the end of the last investigation into the camp conducted in 2010:

> the behaviour of the authorities of the camp—deliberately and consciously making life as difficult as possible for the people in the camp, in numerous ways, leading to the biological destruction of this life—bears all the attributes of a crime—the crime of genocide.[1]

Szmalcówka was established in December 1940, on the site of the former First National Lard Processing and Packing factory at 124/126 Grudziądzka Street, Toruń. The factory buildings had been constructed a decade earlier by Szarf Selma, a Polish Jew who fled the Germans in 1939.[2] The factory site was attractive to the Germans because it was situated in close proximity to the General Government, especially Warsaw, and it was also located close to Łódź in the Reichsgau Wartheland—the newly established German location for the settlement of ethnic Germans. What is more, Szmalcówka was located in an industrial area with a railway siding. During the war, the railway infrastructure was used to facilitate the deportation of Poles from the surrounding region, now redefined in accordance with Nazi racial regulations and policy, to, from, and via the newly established camp Szmalcówka. In other words, the camp was established after the initial wave of mass killings of the Polish intelligentsia following the German invasion of Poland and,

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[1] Tomasz Ceran, *The History of a Forgotten German Camp: Nazi Ideology and Genocide in Szmalcówka* (London: I.B. Tauris, 2015), 50.

[2] Ibid., 50.

operated to facilitate aggregation, racial screening, segregation, and the dispersal of Poles along racial and economic lines. As Ulrich Greifelt, the Reich Commissioner for the Consolidation of German Nationhood, explained in May 1940:

> While 'the removal of persons of alien race from the annexed eastern territories is one of the most important aims to be achieved in the German East,' it is equally imperative 'to regain for the German nation the German blood in these districts, even in cases where the person concerned is Polonised in language and religion.' It is 'an absolute national-political necessity to screen the annexed Eastern territories and, later, the Government General also for such persons of Teutonic blood, to make this lost German blood available to our people again.'[3]

Polish civilians from surrounding areas, mainly farmers who were expelled from their properties and had their land expropriated, were brought to Szmalcówka. Those deemed to exhibit German blood, *Volksdeutsche*—Germans in terms of people, folk or race, or ethnic Germans according to often arbitrary[4] Nazi evaluation, would be forced to "re-settle," predominantly in the *Reichsgau Wartheland*, if not sent to the Reich proper to work. Ethnic Poles on the other hand, viewed as subhuman Slavs lacking Germanic blood were to be deported to the General Government or held to work. A premature death would come to them, and was intended for them, sooner or later. This process of *Entpolisierung* (Depolonisation) or clearing Poland of racially alien Poles and Jews by all means included slave labor and mass murder. Ceran quotes Hans Frank, Nazi Governor General of the Occupied Polish Territories in 1942,

> The evacuation of Poles, and their destruction or treatment exclusively as manpower is the task of our Polish policy....What should be said here is this: all those Poles we're using for work, we keep; while the rest, we eradicate. The great difficulty, however, lies in the fact that the extermination of millions of human beings is a project which we are not yet able to deal with.[5]

As an example of arrival and distribution at Szmalcówka, the first two transports of Polish families evicted from their properties arrived between 20 and 30 November 1940. This included forty-one families from Tczewo, fifty-nine families from Nowe Miastro Lubawskie, twenty-five families from Bydgoszcz, 106 families from Toruń, forty-two families from Rypin, twenty-three families from Świecie, thirty-eight families of Chełmno, twenty-eight families from Grudziądz, seven families from Tuchola, four families from Lipno and three families from Starogard Gdański.[6] Of these 1,358 individuals sent from Szmalcówka to the General Government, 185 were hired by the employment office in Toruń, 119, deemed of German blood, were sent to Łódź in the Reichsgau Wartheland, as suitable for Germanisation, thirty-two were released (including twelve Soviet citizens and two women with children), while twelve Poles remained in the camp.[7] Over the course of the following two years an average of 1,500 people arrived at the camp per month. Conditions were always substandard. At commencement, bales of hay were scattered on the cement around the inside of the four halls of the factory to serve as bedding pallets and three army field kitchens were installed within the former boiler room. Buckets were used as toilets. These quickly overflowed. It took eight months of operation before a washroom was installed. No heating was installed to offset frozen Polish winters. Leaking roofs went unrepaired. After the initial period of concerted forays into separating out "valuable German blood" in the region had subsided, and as the course of the war changed, more people remained incarcerated in Szmalcówka. Eventually transports arrived

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[3] As quoted in the Nuremberg Military Tribunals. "The RuSHA Case," *Trials of War Criminals*, 15 Vols. (Washington, D.C.: Government Printing Office, 1950), 4:762f.

[4] To be born in Prussia, for example, was often enough to constitute German ethnicity.

[5] Ceran, *The History of a Forgotten German Camp*, 59.

[6] Ibid., 60.

[7] Ibid., 61.

but did not leave. By May 1943, one and a half months before the camp was closed, 2,319 remained there, most of them children, too young to work. The above mentioned factors, experienced over the course of the life of the camp, resulted in regular overcrowding, infestation with fleas and lice, typhus epidemics and death secondary to malnutrition, food poisoning, starvation, illness, physical injury or murder.

Ceran's book, not overly lengthy at 256 pages, is divided into five chapters with two appendices. The first chapter, entitled "An Ideological Crusade," encompasses Ceran's theory of German motivation for their policy and actions in the East, including Szmalcówka. Although I did not necessarily disagree with Ceran's views in this chapter, I found the chapter wanting. At twenty-two pages it was too short to adequately unpack the ideas he relates including his own exposition of the Nazi worldview with Antisemitism; Imperialism and Social Darwinism; Anti-Slavism and Anti-Polishness; and Nationalism and Chauvanism emanating around a central cog of Racism. Concepts of modernity, *Gemeinschaft* and *Gesellschaft*, the loss of WWI and the persona of Hitler, were touched upon very briefly. Scientific racism and eugenic theory informed Hitler's (and the Nazi) worldview well before the 1930s,[8] and the organized evaluation, segregation, transport, and murder of the disabled—"life unworthy of life" established a logistical roadmap for later wartime actions. These details, along with the role of beneficiaries, bystanders, the willing participants, accomplices, conspirators, aiders and abettors as enactors of the Nazi worldview as concepts are missing from Ceran's work. But perhaps they should be, as that was not the level at which Ceran was focusing in this chapter, nor what a book about Szmalcówka camp was about. That is my point, instead of an overly brief chapter on ideology; I would have much preferred here a chapter on the history of Toruń and how and why this location was important to the Germans. How did this town change over the course of the war and the role of Szmalcówka camp in that change, perhaps in a similar vein to the work of Deborah Dwork and Robert J. Van Pelt, *Auschwitz, 1270 to the present*.[9]

Chapters two to five of Ceran's book describe the underpinning concepts (Depolonisation) and process of Nazi Polish policy in the region, as summarized above, and provide a detailed description of a number of people incarcerated in the camp as well as conditions within the camp at various periods of its existence. Ceran's work contains a multitude of Tables, Figures, maps and line drawings, some completed by the author. Given that no physical remains of the site exist today and that no photographic images of the camp have been located in the author's quite comprehensive examination of local archival sources, these drawings proved useful to this reader. Appendix one contains ten well-selected documents—two German and seven Polish, in English translation—that I found most valuable in rounding out my understanding of Ceran's prose in various sections of his work.

A central concern for Ceran, and one I agree with is an essential obligation of the historian, is accuracy, empathy, and remembrance in historiography. Toward this end, in painstaking fashion, Ceran has gathered, compared, and contrasted all previously known names, ages, and causes of death of Polish victims who died in the Szmalcówka camp, including one child not listed in any formal documentation, but known to the mother who lost her child there. More than a narrative history, Ceran's book therefore, additionally, becomes a *Memorbuch* or memorial book, based upon an updated examination and correction of the historical record and the latest extant documentation. Ceran's tabulation of these details (Table 5.1) constitutes twenty-seven pages or 12 percent of his entire work.

Ceran's book is largely derived from his investigation and analysis of Polish language documents especially, that can be found in the various regional and state archives located in Bydgoszcz, Gdańsk, Toruń, and Warsaw. His most important sources are the collections of the Polish regional commission for the investigation of Nazi crimes in Bydgoszcz, at its branch in Toruń, held between 1968 and 1976. As well as the materials collected anew by the branch commission for investigation of crimes against the Polish nation in Gdansk, leading the proceedings in Bydgoszcz held between 2005 and 2010. These sources are supplemented with survivor memoirs and witness

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[8] Edwin Black, *War Against the Weak: Eugenics and America's Campaign to Create a Master Race* (New York: Four Walls Eight Windows, 2003), 259.

[9] Deborah Dwork and Robert Jan Van Pelt, *Auschwitz, 1270 to the Present* (New York: W. W. Norton & Company, 1996).

testimony as well as regional histories. I was somewhat puzzled by the omission of the use of *Bundesarchiv* resources, for example SS Officer Records or the NSDAP central card index, that may have facilitated Ceran's profiles of camp Commandants and guard perpetrators based at the camp over the course of its existence.

Tomasz Ceran's book makes a valuable contribution to the history of the treatment of the Polish people under Nazi race and resettlement policy during World War II. It is solidly based on Polish archival documents yet sensitively conveys the sense of chaos—"hunger, displacement, expulsion from home, beatings, executions and forced labour for the Germans"—experienced by the Poles of the region and in the camp.[10] The work would suit senior students and academics of World War II history and genocide studies.

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[10] Ceran, *The History of a Forgotten German Camp*, 7.

Film Review: *Concerning Violence - Nine Scenes From the Anti-Imperialistic Self-Defense (2014)*

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Concerning Violence - Nine Scenes From the Anti-Imperialistic Self-Defense
Director: Göran Olsson
Sweden, Finland, Denmark, USA, 2014

Reviewed by Piotr Cieplak
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Göran Olsson's *Concerning Violence - Nine Scenes From the Anti-Imperialistic Self-Defense* (2014) is an unusual documentary, which—formally and thematically—probes the complex relationship between image, voice and histories. It is Olsson's second film. The first, *The Black Power Mixtape 1967-1975* (2011), used footage shot by Swedish journalists in the 1960s and 1970s to explore the Black Power Movement in the United States. Very much like its predecessor, *Concerning Violence* also relies on images not originally shot by Olsson. Dug out from Swedish archives, the footage of the liberation struggles in Angola, Mozambique, Guinea-Bissau, (former) Rhodesia, accompanied by other scenes of colonial and early post-colonial life, oppression and exploitation across Africa, sets out to illustrate and, in the more brilliant moments of the film, converse with extracts from Franz Fanon's *The Wretched of the Earth* (1961).[1]

Fanon's well-known treatise (banned in France and the U.S. soon after publication) painfully and painstakingly itemizes and deconstructs the different forms of violence and oppression that lie at the very heart of the colonial project. It also contemplates the tragedy of violence being the only available response to colonization. The merits and shortcoming of Fanon's text have been amply discussed and are of no particular relevance here. It is worth mentioning, however, that the first edition of *The Wretched of the Earth* carried an introduction by Jean-Paul Sartre.

Unusually, some would say perilously, for a film, *Concerning Violence* also seeks a philosophical, academic endorsement at its very beginning. The documentary starts with a 6-minute lecture-like introduction (shot very simply and consisting of only four shots) by Gayatri Chakravorty Spivak. Sat in her Princeton University office, surrounded by shelves and piles of books, journals and manuscripts, Spivak introduces Fanon and the film. She also mentions Sartre's preface to the original text and admonishes the philosopher for reading the book as "an endorsement of violence itself" rather than a contemplation of the impossible position of the colonized who is reduced to violence as the only viable response to the colonial project.[2]

One of the most basic and important principles of filmmaking is show not tell. An introduction that summarizes the film (Spivak at one point actually says: "Here now is our film") is a bold and potentially disastrous move. But it does pay off for Olsson. The archive used in the film can feel labyrinthine. It covers diverse geographical, political, cultural and economic locales; often with limited guidance and restricted context. This introductory section helps to orientate the viewer; provides a useful starting point. The section is didactic but does not feel heavy-handed. Spivak does not simply provide the historical and theoretical background. She also challenges Fanon and speaks about the often overlooked gendering of both colonial oppression and liberation struggle, about how revolutionary activity can emancipate women and then return to their subjugation. She singles out the shot of a Mozambican woman whose arm has been amputated as a result of Portuguese bombings (Spivak calls her "the black venus") as the most moving image of the film.

After this introductory section, *Concerning Violence* is visually comprised exclusively of the archive material captured by Swedish journalists. The first image shows a black man shining a shoe

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[1] The film takes its title from one of the essays in *The Wretched of the Earth.*

[2] This criticism of Sartre's interpretation has also been put forward by other scholars, including Homi Bhabha.

worn by a white foot—the theme of racial, cultural and economic oppression is set out clearly from the beginning and comes back many times in the film. It is followed by another mini-section in which we see white soldiers in a helicopter, shooting at cattle in an open field. The animals are helpless; there is nowhere to hide. The technological advantage of the weaponry of war and the distance from which it can be used are completely overwhelming. We then move on to a close ups of the head of one of the cows being shot at point blank. Blood streams from the nostrils and the mouth.[3]

The juxtaposition and metaphor are, perhaps, a little obvious in these opening images. But their presence and execution are telling of the peculiar formal nature of *Concerning Violence.* Working exclusively with the archive, Olsson does not have all the tools usually available to a director. He cannot decide where to point the camera, what to film, what angle to employ. The images at his disposal have not only been shot by someone else (and in fact have multiple authors) but are also from a particular era. Here, the process of re-contextualization of the archive inevitably depends on editing (shot selection, chronology, structure, duration, pace, rhythm, juxtaposition, contrast) and on the audio track that accompanies the images. These directorial interventions, as much as the archive itself (so aesthetically seductive and so firmly placed in the past), shape the narrative and give meaning to the footage – meaning that is a mixture of the footage's original designation and its re-contextualized existence.

The film is divided into nine sections or chapters. Some retain their original audio (including interviews and pieces of narration). Others are accompanied by an eerie soundtrack composed especially for *Concerning Violence*, occasionally reminiscent of the soundscape of another seminal compilation documentary: Emile de Antonio's *In the Year of the Pig* (1968). But by far the most striking sound in the film are the extracts from *The Wretched of the Earth* read by the American rapper, singer and songwriter Ms. Lauryn Hill. Hill's voice is authoritative, melodic, beautiful. It combines conviction, pent-up anger and, towards the end of the film, sounds like a call to action rather than mere commentary. The extracts from Fanon, although short, are carefully chosen and, most of the time, land very effectively on the archival footage. As well as being spoken by Hill, the passages appear in writing on screen.

The potential connection between Fanon's words and the archival footage in *Concerning Violence* is one of the most fascinating aspects of the film. On the one hand, the words shape the footage. They provide it with context (in the sense of the images being able to be placed within and used as illustrations of the wider trends of colonial oppression and anti-colonial struggle across the continent, as seen by Fanon). They also help to carry the structure of the film in that the choice of passages (and the accompanying images) dissects and zooms in on particular aspects of the colonial project and the reaction to it. On the other hand, this kind of contextualization inevitably remains quite general. Even though places, people, particular liberation movements are often named, there is a very strong sense that these unique images are illustrative rather that dialogical, discursive *vis-à-vis* the text.

This could be seen as a mark of passivity of the images in relation to a seminal text that is imposed on them (Fanon, after all, was not writing specifically about the places or events shown in the film). However, Olsson manages to let the footage breathe in its own right, as well as creating the feeling that it is part of a bigger whole, a bigger process. Within the generalized discourse of colonial violence and anti-colonial struggle, Olsson is able to create moments of intimacy and particularity (some of them very uncomfortable). These moments are ample in the film. To mention just a few: an interview with a racist white settler (in section three, entitled "Rhodesia") who admonishes his servant for not opening a beer bottle, bemoans the situation in the country and concludes that "The gooks have got it"; the plight of the family of Robert Jackson (an employee of Lamco – a Swedish/American mining company in Liberia) who are evicted from their house for Jackson's participation in a strike and left homeless and destitute on the side of the road, in the middle of the night (in section five, entitled "Lamco—Liberia, 1966"); the lingering shot of the woman with her arm amputated, breastfeeding a baby who lost a let in the same attack by the Portuguese (in section eight, entitled "The Fiat G.91, with the FRELIMO in Mozambique 1972").

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[3] This image is reminiscent of the slaughtered cow in Sergei Eisenstein's *Strike* (1925)

Even though many of the protagonists of these images remain unnamed and, arguably, illustrative, the potentially abstract and general points about the complexity of co-habitation of the colonized and the colonizers, about the economic face of colonial and post-colonial violence, about the sacrifices of the anti-imperial struggle become somehow more urgent, more real as a result of the editorial choices made by Olsson.

This sense of urgency is another important marker of *Concerning Violence.* There is a risk in making a film so firmly based in the past—consisting entirely of archival footage and structured with the help of a text published in the 1960s. This risk is datedness. One of Olsson's biggest achievements is the fact that *Concerning Violence* feels so pertinent. It is not a helpless, purely illustrative film. Towards the end, the tone and content of the narration turn towards action. Hill, in Fanon's words, warns Africa not to try to emulate Europe but to choose a different path. The U.S. is invoked as an example of a former colony that followed the example of the colonizer and became an oppressor of others itself. In a similar vein, the latter parts of the film suggest the longevity of economic oppression that was born under colonialism (one of the original engines of capitalism) and continues to thrive (often challenged but rarely defeated) long after independence was achieved. While firmly set in the past the film succeeds in being an urgent comment on the present.

Concerning Violence demands effort from the viewer. The unusual formal make up of the film and the jigsaw-like co-existence of the images, narration/text and concepts requires a very active viewing if it is not to fall into the realm of obscurity or abstraction. It is a viewing mode of a particular kind, a viewing that implicates. The presence of implication, the impossibility of neutrality, for me, lies at the heart of the film. It feels reductive to describe a good documentary as a useful didactic text—it seems to take away from its value as a work of art rather than pure document. But such description does not seem pejorative in the case of *Concerning Violence*—at once a highly subjective, poetic text and a useful point of engagement with Fanon and the legacy and colonialism more generally.

Title of the Film: *Om våld* (*Concerning Violence – Nine Scenes From the Anti-Imperialistic Self-Defense*); Director: Göran Olsson; Producers: Tobias Janson, Annika Rogell; Screenplay: Göran Olsson, Frantz Fanon (based on his book); Cinematography: Lis Asklund, Bo Bjelfvenstam, and others; Film Editors: Michael Aaglund, Dino Jonsäter, Göran Olsson, Sophie Vukovic; Sound Designer: Micke Nyström; Country: Sweden, Finland, Denmark, USA; Year of Release: 2014; Production Company: Final Cut for Real, Helsinki Filmi Oy, Louverture Films. Duration: 78 minutes.