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The Promise and Peril of Human Rights Technology

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The first two decades of the twenty-first century have seen a simultaneous proliferation of new technological threats to and opportunities for international human rights. New advances – not only the Internet, social media, and artificial intelligence but also novel techniques for controlling reproduction or dealing with climate change – make clear that scientific and technological innovations bring both risks and benefits to human rights. Efforts to protect and promote human rights have to take seriously the ways in which these technologies, and the forms of knowledge creation, production, and dissemination they enable, can create harms and be exploited to violate rights. At the same time, human rights practitioners must continue to seek creative ways to make use of new technologies to improve the human condition. This dichotomy is the central tension that animates both this volume and the emerging field of human rights technology.

The overriding purpose of the volume, and of the University of Connecticut workshop that launched it, is to encourage human rights institutions, experts, and practitioners to take seriously the risks and opportunities of technology for the promotion and protection of human rights. The volume uses diverse case studies to examine how the dynamic of intertwined threat and opportunity plays out in a range of contexts. Case studies focus on assisted reproductive technologies, autonomous lethal weapons, climate change technology, the Internet and social media, and water meters. Considering the relationship between technology and human rights across these diverse areas reveals areas of both continuity and discontinuity in terms of how technology affects the enjoyment of human rights.

We begin by laying out the principles that animate the project. These principles have been derived chiefly from international human rights law and practice, and also draw on the scholarly study of science, technology, and the law. Based on these principles, we define a "human rights" approach to the study of technology. Finally, we identify and analyze the cross-cutting themes that unite the

book – power and justice, accountability, and the role of private authority – to chart a road map for further study of the relationship between technology and human rights.

I DEFINING A "HUMAN RIGHTS" APPROACH TO TECHNOLOGY

This collection goes beyond analyzing the risks and opportunities of technology to articulate a human rights-based approach to understanding the impact of technological change on human rights. A human rights-based approach to technology in this context is defined by two elements: a reliance on international human rights law as a source of normative commitments; and a focus on accountability strategies derived from human rights practice. In order to examine human rights law and practice as they intersect with technology, the book also makes use of ideas and concepts from cyberlaw and science and technology studies.

Although human rights is clearly not the only lens through which we can view technological change, it is an essential one. Understanding how human rights law and practice intersect with technology offers a global baseline for addressing the cross-border impacts of technology, and it also provides guidance for human rights advocates who are deploying new techniques in their work and responding to the impacts of new technologies.

A *Human Rights Law*

To say that technology presents both opportunities and challenges for human rights is not to suggest it is neutral. To the contrary, the book is motivated by the recognition that the design of technology reflects and influences societal values and norms.[1] Technology matters for human rights not only because it can be used in ways that have negative or positive consequences for the enjoyment of human rights, but also because its very design can make those consequences more or less likely. The well-known maxim "code is law" is shorthand for the idea that design can encourage or discourage particular activities by making them more or less costly, and thus promote particular outcomes.[2]

The ability of technological design to steer outcomes necessarily means that decisions about design will reflect preexisting normative commitments. Those commitments can be derived from a variety of sources, including community values,

[1] *See generally* L. DeNardis, *Protocol Politics: The Globalization of Internet Governance* (Cambridge, MA: MIT Press, 2009); M. Flanagan, D. C. Howe, and H. Nissenbaum, "Embodying Values in Technology: Theory and Practice," in Jeroen van den Hoven and John Weckert (eds.), *Information Technology and Moral Philosophy* (Cambridge: Cambridge University Press, 2008).

[2] L. Lessig, *Code and Other Laws of Cyberspace* (New York: Basic Books, 1999), p. 6.

constitutional precepts, or individual morals. This volume uses international human rights law to orient its discussion of technological design and implementation. This includes not only international human rights law but also a range of specific commitments that characterize human rights practice, including commitments to participation in decision-making and an emphasis on the needs of the most vulnerable. In this sense, the volume uses "human rights" in the specific rather than the general sense – not as a general proxy for "social good," but rather as a set of internationally recognized legal norms and established practices. In fact, these norms and practices are increasingly characterized as a "human rights based-approach" in a variety of social justice contexts.[3]

In reorienting discussions about human rights and technology on the core values of international human rights, the contributors to this volume disavow two tropes that generally dominate such analysis. The first is reductionist thinking about technology, which focuses on innovation and technology as silver bullets or even as goals in and of themselves, rather than as tools that embody both opportunities and risks. The second trope is reductionist thinking about human rights, which tends to reflect unrealistic assumptions about the effectiveness and functioning of international institutions or emphasizes legal accountability over other methods of responding to human rights violations.

We want to move the conversation away from these well-worn paths and reorient it on the fundamental values of a human rights-based approach, which emphasizes universality/inalienability, indivisibility, interdependence/interrelatedness, equality and nondiscrimination, participation/inclusion, and accountability/rule of law.[4] Each of these principles yields insights for understanding the contribution of a human rights-based approach to technology.

Equality and nondiscrimination require attending to the situation of the most vulnerable and demand that all people, regardless of their position in society, have access to the tools and knowledge needed to make their lives better. Accountability means that people must also have access to institutional spaces and mechanisms that allow them to make rights claims and to seek redress from accountable parties, whether governmental or non-state, when these tools and innovations have negative impacts on their lives or when they lack access to the benefits of these tools. Participation means that users and others affected by technological innovation must be meaningfully involved in, not just consulted on, the development and design of technology. Universality and inalienability require us to look beyond the ostensible neutrality of technology to recognize the power and privilege that are embedded in technological systems. Finally, indivisibility, interdependence, and interrelatedness

[3] *See* A. E. Yamin, *Power, Suffering and the Struggle for Dignity: Human Rights Frameworks for Health and Why They Matter* (Philadelphia: University of Pennsylvania Press, 2016), p. 5.

[4] HRBA Portal, "The Human Rights Based Approach to Development Cooperation: Towards a Common Understanding among UN Agencies," http://hrbaportal.org/the-human-rights-based-approach-to-development-cooperation-towards-a-common-understanding-among-un-agencies.

mandate attention to the effects of technology not only on civil and political rights, such as freedom of expression and privacy, but also on rights to water, health, and education, among others. Focusing on these core values of the human rights-based approach can help cut through some of the deterministic thinking that technology engenders and provide the foundation for an approach to technology and innovation that centers on people, not things or institutions.

B *Human Rights Practices*

Technology can also play a central role in human rights accountability practices. Human rights practitioners have developed a set of accountability strategies over the past several decades that have emerged from the peculiarities of international human rights law. Human rights are protected by international treaties that create binding legal commitments for the states that ratify them. Almost always, though, these international treaties are paired with extremely weak enforcement mechanisms. The result is that human rights practitioners have had to rely on indirect compliance strategies, most notably "naming and shaming."[5] While shame can be a component of domestic law enforcement as well,[6] it has over time become a primary strategy for holding states accountable for violations of international human rights law. This feature of human rights practice has important consequences when considering the effects of technology on the promotion and protection of rights. As we discuss below, although new technologies allow greater participation by ordinary citizens in accountability processes and offer new methods for preserving evidence, the use of technology by state actors also fragments state authority and thus makes accountability efforts more challenging.

In focusing on the effects of technology on compliance and enforcement, this volume also contributes to ongoing debates about the effectiveness of international human rights law. In the absence of a centralized authority to enforce rights, international human rights law and institutions may seem far more toothless than would be expected given the importance of the values they claim to protect.[7] Yet the power of human rights is located not in its coerciveness, but in its ability to serve as a

[5] *See, e.g.*, A. Chayes and A. Handler Chayes, *The New Sovereignty: Compliance with International Regulatory Agreements* (Cambridge, MA: Harvard University Press, 1998); T. M. Franck, *Fairness in International Law and Institutions* (Oxford: Oxford University Press, 1995); R. Goodman and D. Jinks, "How to Influence States: Socialization and International Human Rights Law" (2004) 54 *Duke Law Journal* 621–703; A. Guzman, "A Compliance-Based Theory of International Law" (2002) 90 *California Law Review* 1823–87; H. H. Koh, "Why Do Nations Obey International Law?" (1997) 106 *Yale Law Journal* 2599–659.

[6] *See* L. C. Porter, "Trying Something Old: The Impact of Shame Sanctioning on Drunk Driving and Alcohol-Related Traffic Safety" (2013) 38 *Law & Social Inquiry* 863–91; S. Gopalan, "Shame Sanctions and Excessive CEO Pay" (2007) 32 *Delaware Journal Corporate Law* 757–97.

[7] O. Hathaway, "Between Power and Principle: An Integrated Theory of International Law," (2005) 72 *University of Chicago Law Review* 469–521 at 490.

vehicle for the assertion of political demands. Thus, the book envisions a multidimensional model of social change – with human rights operating bottom-up as well as top-down and in which a variety of actors engage both horizontally and vertically in an iterative process of incremental change.[8]

The volume also examines how technology affects this process. Can choices about technological design strengthen efforts to protect rights by encoding human rights values directly into the structures in which communication, knowledge creation, and reproduction take place? Or will technological innovation disproportionately serve the interests of the powerful because of disparities in the knowledge and resources needed to use, deploy, and interrogate it critically? In some cases, might the use of technology slow down processes of social change by rendering invisible deliberate choices that have been made to restrict rights? As discussed at the outset of this introduction, technology is not an either/or proposition; the same technology may do all of these things and more. A goal of the contributions in this volume is to tease out when, where, and under what conditions technology can strengthen and protect rights.

C *Cyberlaw and STS*

The volume also adopts an interdisciplinary approach aimed at bringing international human rights law into conversation with two scholarly disciplines that examine the intersection of law and technology: cyberlaw and science and technology studies (STS). These disciplines share a common commitment to better understanding the technical, social, political, legal, and cultural dimensions of the development of new technologies and the new social arrangements they both accompany and foster.

STS, for example, recognizes that there is a certain amount of experimentation involved in the introduction of a new technology into society. STS scholars explore the intentions of those who deploy new technologies in society, examine the unexpected consequences of the introduction of new technologies, and analyze how societies respond to and shape these new tools, methods, and domains of knowledge.[9]

This conversation promises to be generative and challenging for both human rights and STS. For example, the idea that the introduction of new technologies is an "experiment" seems at first to legitimize the idea of human experimentation,

[8] *See, e.g.*, K. Sikkink, "Patterns of Dynamic Multi-Level Governance and the Insider-Outsider Coalition," in D. della Porta and S. Tarrow (eds.), *Transnational Protest and Global Activism* (Oxford: Rowman & Littlefield Publishers, 2005), p. 156 (dynamic multilevel governance); Yamin, *Power, Suffering, and the Struggle for Dignity*, p. 64 ("rights constitute social practices that create spaces for vital social deliberation on how to arrange social institutions to meet population needs, especially of the most disadvantaged").

[9] W. E. Bijker et al. (eds.), *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, 2nd ed. (Cambridge, MA: MIT Press, 2012).

which is a violation of international human rights. On the other hand, the *concept* of experimentation provides a foundation for questioning the circumstances and effects of decisions associated with the introduction of a new technology, and for integrating greater human rights protections in the process. For example, as Lea Shaver notes in Chapter 2, vulnerable populations are often chosen as initial targets for the introduction of new technology when the impacts of the new technology are unknown, even when, and sometimes precisely when, negative outcomes are directly anticipated.[10] A human rights-based approach to technology informed by the insights of STS might recognize and accept that the introduction of new technology is inevitably experimental, but require that in the process, vulnerable populations be protected from the accompanying risks and share in the potential benefits.

Cyberlaw scholarship has also been a highly generative frame for thinking about how human rights law is affected by, and should respond to, new technological innovations. As legal scholar Lawrence Lessig notes, law and technology are two "modalities of regulation" that can serve to undermine, strengthen, narrow, expand, or displace one another by making regulation invisible, ensuring precision in the delivery of essential goods and services, or fragmenting decision-making.[11] Human rights law provides a unique case study for testing the regulatory effects of technology. While much of cyberlaw focuses on how technology regulates individual behavior, human rights is interested in how technology might constrain or enable regulation by the state. Although it is essential from a human rights perspective to understand how technology can be used by states to affect rights, we are equally concerned with the use of technology to promote human rights within domestic and international law.

II CROSS-CUTTING THEMES

The chapters in this volume, which are described and analyzed in brief at the beginning of each section, highlight three common themes associated with interactions between human rights and technology: the relationship between technology and power, the effect of technological innovation on accountability, and the shifting boundary between public and private.

A *Technology, Power, and Justice*

One of the clearest and most important themes running through all of the contributions to this volume is the relationship between technology and power, and the

[10] K. Sunder Rajan, *Biocapital: The Constitution of Postgenomic Life* (Durham, NC: Duke University Press, 2006); R. Rottenberg, "Social and Public Experiments and New Figurations of Science and Politics in Postcolonial Africa" (2009) 12 *Postcolonial Studies* 423–40.

[11] L. Lessig, "The Law of the Horse: What Cyberlaw Might Teach" (1999) 113 *Harvard Law Review* 501–46 at 506.

effect of this relationship on the achievement of social justice and human rights. Although often heralded as a means to decentralize and destabilize power relationships, technology also reinforces and exacerbates inequality. Part of the value of combining a human rights approach with STS is to reveal the linkages between technology and power and examine how resources are distributed.

Technology is often seen as a means to shift power to the powerless. For example, mobile phones, social media, and the Internet can decrease the cost of communication, thereby making it more accessible to the public. In theory, this ought to shift power to ordinary individuals to participate in social, cultural, economic, and political life, and to take part in efforts to seek accountability for human rights violations. These shifts in power thereby destabilize and reconfigure the human rights domain. As Jay Aronson notes in Chapter 6, changes in how information is produced can alter the role and authority of human rights researchers and can give a voice to those affected by human rights violations.[12] Technology can also increase the delivery of essential services to remote areas, thus enabling the fulfillment of economic and social rights, or make possible choices about family formation that were not previously accessible to many.

At the same time, these shifts occur against the backdrop of unevenly distributed resources – and in many instances may exacerbate that unevenness. In Chapter 9, Ella McPherson illustrates how the deployment of these new techniques creates risk that not all human rights organizations are equally equipped to handle. Further, as John Emerson, Margaret Satterthwaite, and Anshul Vikram Pandey discuss in Chapter 8, technology may enable human rights defenders to convincingly articulate their demands for justice and restitution, but promoting this technology may be harmful if the technology does not come with the resources needed to enable organizations to collect, manage, and use information safely. The use of remote sensing, big data, data-visualization techniques, or even quantitative analysis may require knowledge and expertise outside the reach of most human rights advocacy organizations. Dalindyebo Shabalala (Chapter 3) illustrates global inequities in climate change technologies, which, like many emerging technologies, are often developed in well-resourced settings and only later diffused, if at all, to other parts of the world.[13] G. Alex Sinha (Chapter 12) similarly emphasizes the difficulty that even technologically savvy and well-resourced individuals face in protecting their own security and privacy online. For human rights defenders and organizations operating on a shoestring budget, with little aid directed to general operating expenses, it is nearly impossible.

[12] *See also* M. Beutz Land, "Peer Producing Human Rights" (2009) 46(4) *Alberta Law Review* 1115–39 at 1116.

[13] S. Cozzens and S. Thakur, "Problems and Concepts," in S. Cozzens and S. Thakur (eds.), *Innovation and Inequality: Emerging Technologies in an Unequal World* (Cheltenham: Edward Elgar, 2014), p. 5.

Further, technological innovations may be fundamentally skewed *toward* inequality. STS literature, for example, has long emphasized that "conventional science and innovation policies increase inequalities, unless they are designed specifically to do otherwise."[14] Systems of innovation that reward innovation through the market, for example, are structurally biased to produce goods that benefit those who are already well-off.[15] Fewer resources are invested in the development of technology that benefits poor individuals. Moreover, as Lea Shaver demonstrates in Chapter 2, when technology is deployed in poor areas, it can have the effect of limiting rights rather than protecting them. The water meters in Soweto, South Africa that anchor her analysis did not shift power to the poor, but rather consolidated control and authority in the state and the affiliated entity installing and running the meters. McPherson makes a similar point in her contribution. Although ICTs do enable human rights communication, the associated risk they engender means that they might only amplify the voices of the largest and most powerful organizations, leaving little room for the opening up of global audiences for smaller and less well-resourced groups.

Climate mitigation technologies also exacerbate global inequality by pitting the interests of the powerful against the less powerful.[16] Shabalala, in Chapter 3, examines the way in which those most affected by climate change and in need of mitigation technology are precisely those in the least position of power to bargain for that technology. There is an assumption that simply allowing information to be "free" will have positive social justice returns. In reality, who has access to this information is determined by existing power dynamics that depend on capital, investment, know-how, and intellectual property rights. Without changes to those underlying conditions, technology will at best make only marginally positive contributions to addressing inequalities at the national, regional, or global level. More likely, it will serve to reinforce those inequalities.[17]

For technology to serve the interests of the less powerful, accessibility is not enough. Technologies do not work in a vacuum, but rather depend upon complex networks of expertise, maintenance, and governance that embody structural inequalities. Efforts to

[14] Ibid., p. 8.

[15] *See* A. Kapczynksi, "The Cost of Price: Why and How to Get Beyond Intellectual Property Internalism" (2012) 59 *UCLA Law Review* 970–1026 at 978.

[16] Communication technologies have long been critiqued as exacerbating rather than alleviating global power inequalities. *See* R. F. Jørgensen, *Framing the Net: The Internet and Human Rights* (Cheltenham: Edward Elgar, 2013), pp. 43–44 (discussing the call for a New World Information and Communication Order that would enable countries of the Global South to participate more fully in global communication networks).

[17] S. D. Gatchair, I. Bortagaray, and L. A. Pace, "Strong Champions, Strong Regulations: The Unexpected Boundaries of Genetically Modified Corn," in Cozzens and Thakur, *Innovation and Inequality: Emerging Technologies in an Unequal World*, p. 116 (noting that Argentina has profited more from genetically modified crops because it has more large commercial farms than other developing countries, and thus can benefit more from the improvements that these products enable).

introduce new technologies to human rights problems must begin by asking a series of important questions about power, including who stands to benefit from any changes that the technology makes to the status quo – and to understand that these benefits are not equally distributed. It is essential to guard against the intentional bias built into technologies and their implementation, as well as unintentional negative consequences. We also need to think much more carefully about the state obligation not just to promote technological innovation and access to technology, but also the obligation to promote technological innovation in a way that supports rather than hinders the enjoyment of human rights.

B *The Challenge of Accountability*

This book also examines the impact of new technologies on efforts to promote accountability for human rights violations. As demonstrated in Part II, new technologies are often seen as having the capacity to revolutionize accountability efforts, providing opportunities for predicting, preventing, and mitigating atrocity crimes[18] as well as holding human rights abusers accountable for those violations.[19] The case for technology as a crucial new accountability tool has several dimensions:

- The falling cost of documentation technologies means that ordinary individuals now often possess the tools they need to capture and share information about violations. Rather than having to rely on trained researchers, documentation opportunities now exist wherever there is someone with a smartphone and an Internet connection. Citizen video generated in this way has been instrumental in identifying human rights abuses in many recent cases, such as in Israel's attacks in Gaza in 2014.[20]
- Many technologies offer opportunities to gather information in remote or even inaccessible areas. Mobile phones can be distributed to isolated communities, thus enabling them to gather and transmit information

[18] *See, e.g.*, S. E. Kreps, "Social Networks and Technology in the Prevention of Crimes against Humanity," in R. I. Rotberg (ed.), *Mass Atrocity Crimes: Preventing Future Outrages* (Washington, DC: World Peace Foundation, 2010), p. 175; C. Tuckwood, "The State of the Field: Technology for Atrocity Response" (2014) 8 *Genocide Studies and Prevention: An International Journal* 81–86 at 81; C. Hargreaves and S. Hattotuwa, *ICTs for the Prevention of Mass Atrocity Crimes* (ICT for Peace Foundation, October 2010), http://ict4peace.org/wp-content/uploads/2010/11/ICTs-for-the-Prevention-of-Mass-Atrocity-Crimes1.pdf.

[19] S. Livingston and G. Walter-Drop, "Conclusions," in S. Livingston and G. Walter-Drop (eds.), *Bits and Atoms: Information and Communication Technology in Areas of Limited Statehood* (Oxford: Oxford University Press 2014), p. 169.

[20] Amnesty International, "Launch of Innovative Digital Tool to Help Expose Patterns of Israeli Violations in Gaza," July 8, 2015, www.amnesty.org/en/latest/news/2015/07/launch-of-innovative-digital-tool-gaza/.

about violations.[21] Satellite images can be used to collect information about violations occurring in places off-limits to researchers.[22]

- Digitization may contribute to accountability efforts. Because digital evidence is easy to share and tends to be difficult to destroy once widely distributed or preserved, it may be harder for states to keep evidence of human rights violations from reaching the hands of interested constituencies.
- Social networking technology supports the formation of groups, which can augment social movements designed to promote rights. Although scholars and advocates contest the existence and extent of the impact of technology on social mobilization, new technologies present at least the opportunity for mobilization around human rights documentation, advocacy, and capacity building.[23]

To be clear, technology is not a silver bullet.[24] At the same time, it is a critical element in present and future efforts to hold human rights abusers accountable.[25]

Behind the push to incorporate new technologies into human rights accountability efforts is an assumption about technology that is fundamentally incorrect: that because new information and communication technologies can be used to collect, analyze, and disseminate information, they are automatically biased toward greater disclosure and transparency. Technology, however, can be used just as easily to disguise, hinder, and obscure responsibility.

This is not intended as a tired recitation of the truism that technology is a tool that can be directed to both good and bad ends. Clearly, the use of technology by states and other duty bearers can undermine accountability efforts. And reliance on technology by human rights organizations can divert those organizations and their resources away from other activities that may have more of an impact on rights protection and promotion. But technology is not just *used* in good and bad ways; rather, it is in many contexts actually biased *against* disclosure and accountability. For example, the use of technology by states can obscure and fragment authority and thus disable the mechanisms that human rights advocates use to promote

[21] M. K. Land et al., *#ICT4HR: Information and Communication Technologies for Human Rights* (Paris: World Bank, 2012), pp. 8–9.

[22] *See, e.g.*, American Association for the Advancement of Science, "High-Resolution Satellite Imagery and Housing Destruction in Ulu, Sudan," www.aaas.org/page/high-resolution-satellite-imagery-and-housing-destruction-ulu-sudan.

[23] *See generally* Z. Tufekci, *Twitter and Tear Gas: The Power and Fragility of Networked Protest* (New Haven, CT: Yale University Press, 2017).

[24] *See* Tuckwood, "The State of the Field," p. 82 ("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."); *see also* Kreps, "Social Networks and Technology," p. 175.

[25] L. Diamond, "Liberation Technology," in L. Diamond and M. F. Plattner (eds.), *Liberation Technology: Social Media and the Struggle for Democracy* (Baltimore: John Hopkins University Press, 2012), pp. 10–12.