

PART I

Normative Approaches to Technology and Human Rights

The essays in Part I focus on the relationship between human rights law and technological developments – specifically what human rights law requires when new technologies are introduced and disseminated in society, and how new technologies have the potential to fragment the very legal authority needed to address the negative impacts of technology.

The first two chapters consider how human rights law applies to technology. In Chapter 2, “Safeguarding Human Rights from Problematic Technologies,” Lea Shaver explores what the emerging right to science requires of states when new technologies are introduced in a way that significantly impacts human rights. Using South African litigation over restrictive water meters as her lens, she argues that human rights activists and institutions need to be conscious of the technological element of human rights violations. She proposes looking to human subjects protection as a framework for legal accountability for what may amount to involuntary and harmful technological experiments. In Chapter 3, “Climate Change, Human Rights, and Technology Transfer: Normative Challenges and Technical Opportunities,” Dalindyabo Shabalala focuses on state obligations to engage in technology transfer through a human rights lens. Shabalala argues that human rights provides a stronger basis than development approaches for making claims to climate change technology transfer. Human rights emphasizes the needs of vulnerable populations within countries and provides a basis for differentiating between and prioritizing particular technologies.

The next two chapters consider the introduction of new technologies through the frames of ethics and the law of war. In Chapter 4, “Judging Bioethics and Human Rights,” Thérèse Murphy considers the intersection of human rights law and bioethics, which addresses ethical issues associated with medical and biological technology. She examines leading cases in the jurisprudence of the European Court of Human Rights on the regulation of reproductive technology in order to bring bioethics and human rights into deeper conversation. In Chapter 5, “Drones,

Automated Weapons, and Private Military Contractors: Challenges to Domestic and International Legal Regimes Governing Armed Conflict,” Laura Dickinson considers how the automation¹ and privatization² of war interact with each other to exacerbate the effects on human rights. Dickinson argues that these developments undermine domestic limits on the power of the US president to declare war, and also obscure and fragment decision-making authority on the use of deadly force in ways that diminish existing mechanisms of accountability under international law.

One of the clearest contributions of the chapters in Part I is their dramatic illustration of the variety of ways in which technology can affect rights. New technological innovations have significant consequences for human rights, in terms of both the opportunities they offer for the fulfillment of rights and the harms they can cause. States and non-state actors can use technology to limit rights in unanticipated and often invisible ways, as Shaver’s and Dickinson’s chapters make clear. These consequences are not limited to civil and political rights. Part I reveals that technology is just as central to the enjoyment of economic and social rights – health, water, and the environment – as it is to the rights to association, privacy, family, and expression.

The application of technology alters cultural understandings around concepts like privacy and family in ways that affect the application of international human rights norms to these problems. As technology expands the possibilities available for forming and extending families, it also puts tension on what it means to have a right to found a family – how far that right extends and the role that human rights law should play in reconciling competing claims regarding reproductive decisions.³ These essays demonstrate that the relationship between human rights law and technology is not unilateral, but mutually constitutive. Just as international human rights law is transformed by the introduction of new technologies, technology is also affected by international human rights law. As legal regimes generate new rights and transform others, they also shape the path of technological development.⁴ As Shabalala’s chapter (Chapter 3) illustrates, for example, the international rules

¹ Concerns about the impact of automation have been raised recently in contexts as diverse as self-driving cars and the law of war. See, e.g., A. Etzioni and O. Etzioni, “Keeping AI Legal” (2016) 19 *Vanderbilt Journal of Entertainment & Technology Law* 133–46; M. Wagner, “The Dehumanization of International Humanitarian Law: Legal, Ethical, and Political Implications of Autonomous Weapons Systems” (2014) 47 *Vanderbilt Journal of Transnational Law* 1371–1424; see generally E. Parasidis, “Emerging Military Technologies: Balancing Medical Ethics and National Security” (2015) 47 *Case Western Reserve Journal of International Law* 167–183.

² See, e.g., M. Minow, *Partners, Not Rivals: Privatization and the Public Good* (Boston: Beacon Press, 2002); D. Barak-Erez, “The Private Prison Controversy and the Privatization Continuum” (2011) 5 *Law & Ethics of Human Rights* 138–157.

³ See, e.g., *Artavia Murillo et al. (“In Vitro Fertilization”) v. Costa Rica*, Judgement, Inter-Am. Ct. H.R. (ser. C) No. 257 (November 28, 2012).

⁴ S. Jasanoff, “Introduction: Rewriting Life, Reframing Rights,” in S. Jasanoff (ed.), *Reframing Rights: Bioconstitutionalism in the Genetic Age* (Cambridge, MA: MIT Press, 2011), p. 3.

regarding intellectual property affect the path of green technology development and transfer in developing countries.

The chapters in Part I also consider the obligations that human rights law puts on the regulation of technology itself. Human rights law is technologically neutral on its face, not anchored to any particular form of technology or system of knowledge production. At the same time, the human rights corpus, especially the right to science, requires states to ensure that the introduction of new technology does not harm rights and to create an enabling environment that facilitates rights promotion in the face of new technology. States also have obligations to individuals in other countries to promote the transfer of knowledge when this knowledge is necessary for those individuals to enjoy their fundamental human rights. This duty becomes ever more important as technological development exacerbates global inequalities and technology plays an increasingly prevalent role in fulfilling economic and social rights.

The essays in Part I also grapple with the question of how international human rights law ought to respond to technological change, including how technology can better incorporate human rights into its design. Two aspects of international human rights law help it to be robust enough to respond to the challenges presented by new technologies. First, as a product of political compromise and an attempt to articulate rules that apply across widely diverging national systems, human rights law is, in general, ambiguous and underdeveloped. Although this can be a source of frustration for many, it also helps ensure that human rights law can be interpreted in ways that meet new challenges.⁵ For example, Shaver's chapter (Chapter 2) demonstrates how human rights law might be interpreted and adapted to respond to the threat some technologies pose to the enjoyment of human rights.

Second, human rights treaties generally allow, either directly or indirectly, a fair measure of discretion for states in terms of how they implement their treaty obligations. Although human rights law does at times prohibit particular conduct on the part of the state, states have leeway to determine how best to achieve certain outcomes.⁶ This discretion also enables human rights law to evolve in ways that meet technological challenges, including challenges that require the state to undertake new initiatives to meet their international obligations.

At the same time, while the broad discretion and ambiguity that characterize human rights law allow it to evolve with technology, new interpretations must retain

⁵ Established principles of treaty interpretation require that terms be read in light of current conditions to account for new technological developments or other circumstances the drafters did not or could not have considered, in order to ensure that the treaty remains effective in realizing its object and purpose. R. K. Gardiner, *Treaty Interpretation*, 2nd ed. (Oxford: Oxford University Press, 2015), p. 254.

⁶ State progress in meeting international human rights obligations can be measured in terms of both conduct and results. M. Green, "What We Talk About When We Talk About Indicators: Current Approaches to Human Rights Measurement" (2001) 23 *Human Rights Quarterly* 1062–97 at 1075.

a focus on the core values of international human rights. This is achieved not by “updating” the law, but rather by consciously engaging with questions of risk, harm, and social disruption that inevitably accompany the introduction of new technology. Thus, a core value of a human rights-based approach to technology is attention to the consequences of technological innovation. Further, this attention must be focused on distribution of power and resources. As the chapters by Shaver (Chapter 2) and Shabalala (Chapter 3) make clear, the effects of technological innovation on human rights are not experienced equally along lines of race, class, gender, or other status. Instead, technology is deployed in uneven and unequal ways that often have a negative impact on the most vulnerable. Moreover, the inequitable distribution of technology along national, regional, and socioeconomic lines also has consequences that can reinforce power imbalances, particularly global power imbalances.