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The Fourth Generation of Human Rights:

Epistemic Rights in Digital Lifeworlds

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Discussion Paper



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ABSTRACT: In contrast to China's enormous efforts to upgrade its system of governance to a new technological level built around a stupefying amount of data collection and electronic scoring, countries committed to democracy and human rights did not upgrade *their* systems. Instead of adjusting democracy and human rights to the new technological possibilities, those countries ended up with *surveillance capitalism*. It is vital for the sheer survival of those ideas about governance to perform such an upgrade. The present project aims to contribute to that. I propose a framework of epistemic actorhood in terms of four roles, and characterize digital lifeworlds and what matters about them, in terms of both how they fit in with Max Tegmark's distinction among various stages of human life and how they give rise to their own episteme and the data episteme, with its immense possibilities of infopower (vocabulary inspired by Foucault). A set of epistemic rights that strengthen existing human rights—as part of a *fourth generation* of rights—is needed to protect epistemic actorhood in those roles, which would be a long way towards performing this kind of upgrade. In the long run, as we progress into Life 3.0, we need a new kind of human right, the right to the exercise of genuinely human intelligence. The good news is that, to the extent that we can substantiate the meaning of human life in the uncaring world that natural science describes, we can substantiate such a right vis-à-vis non-human intelligent life. We must hope that arguments of this sort can persuade a superior intelligence—which is by definition, massively beyond ours, and hard to anticipate.

Where is the Life we have lost in living?
Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?

T. S. Eliot, from the Opening Stanza of
Choruses from the Rock, 1934

Introduction: 1948, Analog and Digital

On December 4, 1948, George Orwell sent to his publisher the manuscript of *1984*, a utopian novel that captures some of the great fears of the 20th century. Taking place in an imagined future set in 1984, the book explores the consequences of mass surveillance and repressive regimentation of everything people do.¹ On December 10, 1948, less than a week after Orwell submitted his novel, the UN General Assembly took a historic vote. The idea that there should be a document stating protections and provisions owed to all humans had gained momentum during the Second World War. A growing sense that human affairs had, repeatedly, gotten derailed dramatically in the 20th century made the late 1940s a period when the project of institutionalizing human rights briefly

flourished before the world encountered its next crisis and plunged into the Cold War. While the UN did not commit to detailed human rights prescriptions at its founding in 1945, a committee was charged to attend to that task. Under Eleanor Roosevelt's leadership, the Human Rights Commission drafted the preamble and thirty articles that would become the Universal Declaration of Human Rights ("UDHR") through that General-Assembly vote in late 1948.²

So, the year 1948 marked progress for the endeavor to see each human life protected, but also witnessed breakthroughs in a very different domain. That year, Norbert Wiener published *Cybernetics or Control and Communication in the Animal and the Machine*, and Claude Shannon published "The Mathematical Theory of Communication." These two pieces set the stage for the multidisciplinary efforts aiming to come to terms with an increasing abundance of information and rapidly developing capacities for electronic computation, especially in the new field of computer science, or informatics.³ Alan Turing had developed the Turing machine, a mathematical model of computation that defines an abstract machine. In 1950, he would publish "Computing Machinery and Intelligence" to propose an experiment that became known as the Turing

¹ George Orwell, *1984* (New York City: Signet Classic, 1961); Gordon Bowker, *Inside George Orwell: A Biography* (New York City: Palgrave Macmillan, 2003), chapter 18.

² For the Declaration, see "Universal Declaration of Human Rights," United Nations, accessed January 23, 2021, <https://www.un.org/en/universal-declaration-human-rights/>. For discussion, see Paul Gordon Lauren, *The Evolution of International Human Rights: Visions Seen* (Philadelphia: University of Pennsylvania Press, 2011); Johannes Morsink, *The Universal Declaration of Human Rights: Origins, Drafting, and Intent* (Philadelphia: University of Pennsylvania Press, 2000).

³ Claude E. Shannon and Warren Weaver, *The Mathematical Theory of Communication* (Urbana, Illinois: University of Illinois Press, 1971); Norbert Wiener, *Cybernetics or Control and Communication in the Animal and the Machine* (Cambridge, MA: MIT Press, 2019). For the context, see Ronald R. Kline, *The Cybernetics Moment: Or Why We Call Our Age the Information Age* (Baltimore: John Hopkins University Press, 2015); James Gleick, *The Information: A History, A Theory, A Flood* (New York City: Vintage, 2012), chapters 8–9; Flo Conway and Jim Siegelman, *Dark Hero of the Information Age: In Search of Norbert Wiener the Father of Cybernetics* (New York City: Basic Books, 2006). For the postwar impact of cybernetics and the communication sciences on the social and human sciences, design, arts, and urban planning, see Orit Halpern, *Beautiful Data: A History of Vision and Reason Since 1945* (Durham, NC: Duke University Press, 2015).

Test, an attempt to define standards for machines to be called “intelligent.”⁴ In Princeton, in the ‘40s and early ‘50s, John von Neumann advanced the theoretical design of digital electronic computers and built machines that accelerated the development of hardware. The digital age was on its way.⁵ Eventually it would make the fears articulated by Orwell come alive in entirely new ways beyond what even he could imagine, and beyond what a document from 1948 could protect against.⁶

The term “lifeworld” (from German *Lebenswelt*, which is familiar from phenomenology, especially Husserl) characterizes the immediate impressions, activities, and relationships that make up the world as a person experiences it and that people in shared cultural contexts experience together.⁷ In 1948, lifeworlds were thoroughly *analog*, involving interactions and technologies driven by tactile physical experiences and organized around measurements that represented what they measured, as a clock’s moving hands represent time, making clocks “analog” to time. That the Universal Declaration emerged from our analog past does not mean it fails to speak to the digital lifeworlds we increasingly inhabit, lifeworlds structured around electronic devices and numerically coded information (“digital” information, from the Latin for finger).⁸ But, it does mean the Declaration was designed to respond to the many ways people were mistreated specifically in the analog lifeworlds of the industrial age, with its political and economic possibilities. Only decades after the Declaration would digital lifeworlds connect humans, sophisticated machines, and abundant data in the elaborate ways that now shape our reality, as a result of developments that accelerated in the 1940s.

Eventually, these lifeworlds might merge into a full-fledged Life 3.0, whose participants not only design their *cultural* context—as was true for Life 2.0, which in turn developed from the evolutionary and pre-cultural Life 1.0—but also their *physical* shapes.⁹ Digital lifeworlds in Life 3.0 might be populated by genetically enhanced humans, cyborgs, and uploaded brains, as well as advanced algorithms embedded into any manner of physical device. If there is an intelligence explosion (singularity) from within our digital lifeworlds, genetically or technologically unenhanced humans—who, ironically, created those lifeworlds—would be intellectually inferior to other inhabitants, and might find Life 3.0 unwelcoming.

Only time can tell whether digital lifeworlds lead from our analog past to a fully digitalized future with such high-tech inhabitants, the last phase of Life 2.0 evolving into Life 3.0. But, what is clear is that we inhabit digital lifeworlds now and must adjust the human-rights project to protect human life as it unfolds, albeit also with an eye on what the future might bring. In digital lifeworlds as we know them, increasingly more activities are captured as data and stored, sorted, and processed. Digital data can be copied without loss of quality as many times as one likes, and at great speed. More and more of what we do, say, or believe, and more and more of our movements and interactions leave digital marks, some potentially permanent. To mention a few symptoms of the digitalization that has engulfed us, as of 2000, one quarter of global information was digital, but as of 2013, it was 98%. More data are gathered since we increasingly shift activities into digital formats, storage is cheaper, computational power to process data has steadily increased, and replication and transmission of digital information is easy. As of 2018, every day 269 billion emails are sent, 350 million photos uploaded on Facebook, 3.5 billion Google searches conducted, and 500 million tweets sent.¹⁰

⁴ Alan Turing, “Computing Machinery and Intelligence,” *Mind* 59, no. 236 (1950): 433–60.

⁵ George B. Dyson, *Darwin among the Machines: The Evolution of Global Intelligence* (New York City: Basic Books, 2012); George Dyson, *Turing’s Cathedral: The Origins of the Digital Universe* (New York City: Vintage, 2012); Nils J. Nilsson, *Quest for Artificial Intelligence: A History of Ideas and Achievements* (Cambridge: Cambridge University Press, 2009). See also Bruce G. Buchanan, “A (Very) Brief History of Artificial Intelligence,” *AI Magazine* 26, no. 4 (2005): 53–60.

⁶ Since we are at it, it might be worth mentioning two other facts about 1948. It is the year when T. S. Eliot received the Nobel Prize in Literature (see epitaph). It is also the year in which the Catholic Church published the 20th and last edition of its list of forbidden books, the *Index Librorum Prohibitorum*; see Editors of *Encyclopaedia Britannica*, “*Index Librorum Prohibitorum*,” *Encyclopaedia Britannica*, accessed January 23, 2021, <https://www.britannica.com/topic/Index-Librorum-Prohibitorum>.

⁷ On the Husserl background, see David Woodruff Smith, *Husserl* (London: Routledge, 2013). I take the term “digital lifeworld” from Jamie Susskind, *Future Politics: Living Together in a World Transformed by Tech* (Oxford: Oxford University Press, 2018). For Husserl’s work, see Smith, *Husserl*.

⁸ There are actually considerable complexities to the digital vs. analog distinction. For example, see David Lewis, “Analogue and Digital” *Nous* 5, no. 3 (1971): 321–27; John Haugeland, “Analog and Analog,” *Philosophical Topics* 12, no. 1 (1981): 213–225; Annick Lesne, “The Discrete vs. Continuous Controversy in Physics,” *Mathematical Structures in Computer Science* 17, no. 2 (2007): 185–223. See also Luciano Floridi, *The Philosophy of Information* (Oxford: Oxford University Press, 2013), chapter 14.

⁹ For that term, see Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence* (New York City: Knopf, 2017).

¹⁰ Susskind, *Future Politics*, 63–64.

Providing myriads upon myriads of data, much of them about what humans do, think, or feel, digital lifeworlds engage humans much more as *epistemic actors*—as *knowers* and *knowns*—than was ever even possible in the analog world, with its limited capacities for storing, sorting, or processing information. Accordingly, it is regarding their *epistemic rights*, rights as *knowers* and *knowns*, that humans need especially high levels of protection at this late stage of Life 2.0, with its colossal possibilities of epistemic intrusiveness. If and when we get to Life 3.0, these rights would have to include the right to the exercise of a distinctively human intelligence in lifeworlds shared with entities of our making that nonetheless might surpass us enormously in intelligence.

It is partly because of the relevance they already have and partly because of their relevance in Life 3.0 that we should give the kind of importance to epistemic rights that comes with acknowledging them as components of a *fourth generation* of human rights. Accordingly, the purpose of this paper is to substantiate the significance of epistemic rights as human rights. Casting this project in terms of a fourth generation of rights helps to see its philosophical and political urgency. In the decade between 2010 and 2020, China upgraded its system of governance—Communist Party rule—to a new technological level built around a stupefying amount of data collection and electronic scoring. This came as a surprise to many who expected that the rise of the Chinese middle class by itself would lead to democratization and a broader embrace of human rights. What is also striking is that countries committed to democracy and human rights did not upgrade *their* systems. Instead of adjusting democracy and human rights to the new technological possibilities, those countries ended up with what Shoshana Zuboff calls “surveillance capitalism.” It is vital for the survival of those ideas—democracy and human rights—to work on such an upgrade, and the present project aims to contribute to that.¹¹

Section two introduces a framework of “epistemic actorhood,” to capture different roles persons play in exchanges of information, with an eye on digital lifeworlds. Epistemic rights then are rights that protect individuals as knowers and knowns in these four roles. Section three explores what effect the presence of epistemic rights already has on the UDHR and beyond (which is substantial), and thus the recognition they have received in the analog world. That section also introduces the background to the discussion about a fourth generation of rights. Section four discusses digital lifeworlds by embedding them into the large-scale historical perspective captured by the Life 1.0/2.0/3.0 distinction. Section five takes a look at our digital lifeworlds from a rather different angle,

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enlisting perspectives from Foucault (who already appears in section two). Knowledge itself is a problematic notion that needs to be understood at the nexus to power, which is true then also for epistemic rights.

With these various ways of characterizing digital lifeworlds in place, section six turns to epistemic rights in Life 2.0. Such rights are already exceedingly important because of the epistemic intrusiveness of the digital-lifeworlds-stage of Life 2.0. They should be stronger and more extensive than what the UDHR provides. But, once Life 3.0 emerges from our digital lifeworlds, we need another right, the right to exercise human intelligence in the first place, as discussed in section seven. The point of a fourth generation of human rights is to protect human life also in the presence of new kinds of intelligence. The required argument for the validity of the right to the exercise of human intelligence can draw on the secular meaning-of-life literature. Arguments that make the case that human life has meaning if there are no deities will also show that super-intelligent non-human inhabitants of Life 3.0 have reason to respect human life enough to accept such a right. Section eight concludes.

Epistemic Actorhood

For present purposes, I understand information in terms of data. Data are anything recorded and transmissible in some act of communication. Information is data that is *useful* in given contexts. Most commonly, and minimally, data will be useful by being accurate, the kind of thing captured in truthful

¹¹ Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (New York City: PublicAffairs, 2019).

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statements.¹² Information gathering with the intention of acting back on the environment is the key activity of all intelligent life. “To live effectively is to live with adequate information,” Norbert Wiener once wrote.¹³ For humans, inquiry—systematic gathering of information through language or otherwise—is an essential pursuit. Accordingly, much scrutiny is devoted to what constitutes successful inquiry, involving fields like epistemology or scientific methodology. However, knowledge acquisition arguably is not exhaustively understood as a purely rational matter. Inquiry inevitably occurs in contexts where information is channeled and presented in some manner, and where it is more or less difficult for people to acquire knowledge, including self-knowledge. Scrutiny of human inquiry therefore also involves fields like history, ethics, sociology, or political science.

Throughout history and across cultures, multifarious standards of inquiry evolved. Michel Foucault used the term *episteme*—Greek for understanding—to denote the structure of thought, or the worldview(s), of an era: structures that, one way or another, are collectively maintained in ways that reflect power structures and that individual inquirers can evade only under great strains, intellectually or politically. The *episteme* of an era includes a shared set of rules for how to go about inquiry, and of who gets to go about what kind of inquiry, as well as a shared body of what counts as knowledge.¹⁴

But, as we reflect on inquiry, we must recognize humans not merely as individual knowers and as collectively maintaining *epistemes*, but also as, wittingly or unwittingly, revealing information—again, both individually and collectively. Much of the information people seek is about other humans. So, individuals—things about them, personal data—are *known to* others. Individuals are “knowers,” but also “knowns.”

And, people are also known in aggregates: individuals gather information about behavioral patterns of neighbors, customers, or fellow citizens. Polling and market research have made strides in coming to know people collectively, for which digital lifeworlds offer a rich array of tools. As revealers or bearers of information, individuals are subject to rules that define success in terms of known-ness, one’s own and that of others. These rules are a subset of those that apply to successful inquiry (where then the target of inquiry is humans). What is distinctive about this subset is not the rationality that applies to seeking information, but the moral, social, or political standards that apply to what information should or should not be available about people, and to whom. Moreover, as members of collectives, people maintain such rules of revealing and also the content of what is known about us, all of which is, again, part of the *episteme*, since knowers are also knowns.

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¹² For the intellectual history of the notion of “data,” see Daniel Rosenberg, “Data Before the Fact,” in *“Raw Data” Is an Oxymoron*, ed. Lisa Gitelman (Cambridge, MA: MIT Press, 2013), 15–40. Even though the term data does indeed mean “given,” a long-standing debate in the philosophy of science is about the extent to which data are independently given or rather always already reflect complex interactions among researchers in the world, which happens with the help of interfaces such as observational techniques, registration and measurement devices, and standardization of inquiry. Such interfaces would make data “theory-laden.” For recent discussions, see Ronald N. Giere, *Scientific Perspectivism* (Chicago: University of Chicago Press, 2010); Hans Radder, ed., *The Philosophy of Scientific Experimentation* (Pittsburgh: University of Pittsburgh Press, 2003); David Gooding, *Experiment and the Making of Meaning: Human Agency Scientific Observation and Experiment* (Dordrecht: Springer, 1994). For a discussion of what this debate about data entails specifically for biology, see Sabina Leonelli, *Data-Centric Biology: A Philosophical Study* (Chicago: University of Chicago Press, 2016). Leonelli defines data “as any product of research activities, ranging from artefacts such as photographs to symbols such as letters or numbers, that is collected, stored, and disseminated in order to be used as evidence for knowledge claims [italics in the original].” See *Ibid.*, 77. Leonelli stresses that this is an account of what role data play in the scientific process, which leaves open that they can be valued also in other ways (e.g., financial, cultural, or affective). For the equally fascinating history of the notion of “information,” see John Durham Peters, “Information: Notes Toward a Critical History,” *Journal of Information History* 12, no. 2 (1988): 9–23. For the notion of information, see also Gleick, *The Information*. See also Floridi, *The Philosophy of Information*; Luciano Floridi, *The Ethics of Information* (Oxford: Oxford University Press, 2013); Fred Dretske, “The Metaphysics of Information,” in *Wittgenstein and the Philosophy of Information*, eds. Herbert Hrachovec and Alois Pichler (Frankfurt am Main: Ontos, 2008), 273–284.

¹³ Norbert Wiener, *The Human Use of Human Beings: Cybernetics and Society* (London: Free Association Books, 1989), 18.

¹⁴ See Michel Foucault, *The Archaeology of Knowledge: And the Discourse on Language* (New York City: Vintage, 1982); Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (New York City: Vintage, 1994); Michel Foucault, *Power/Knowledge: Selected Interviews and Other Writings, 1972–1977*, ed. Colin Gordon (New York City: Vintage, 1980). On Foucault, see Christopher Watkin, *Michel Foucault* (Phillipsburg, New Jersey: P & R Publishing, 2018); Gary Gutting, *French Philosophy in the Twentieth Century* (Cambridge: Cambridge University Press, 2001), chapter 9.

Let us say an “epistemic actor” is a person or entity integrated into some communication network—some system of information exchange—as seeker or revealer of information. In academic discourse, “actors” normally are people with agency (“agents”), connoted with terms like choice or rationality. But, in ordinary parlance, “actors” often are performers who follow scripts provided by producers. This sense of “actor” is what we enlist. Talking about epistemic actors, rather than agents, de-emphasizes that they *do* things. Epistemic actors have thoughts, feelings, and beliefs: they *are* certain ways that can become known. In addition, in terms of what occurs within communication networks, seekers and revealers obtain or generate information according to prevalent standards, which themselves vary in nature, from rational to moral or sociological. These standards can be critically assessed or transgressed, but individuals—the actors—do not normally even noticeably contribute to them. They fill roles by meeting expectations.¹⁵

We can distinguish four roles that constitute epistemic actorhood: individual epistemic subjects, collective epistemic subjects, individual epistemic objects, and collective epistemic objects. Since we are interested in digital lifeworlds, we introduce these roles with an eye on such contexts. First of all, people operate as *individual epistemic subjects*: they are learners or knowers whose endeavors are expected to respect certain standards of inquiry, ranging from standards of rationality (how best to obtain information) to moral standards or plain societal divisions of labor (who is supposed to have what kind of knowledge). To gather and process information, people need to figure out established norms within the *episteme*. This will include finding an appropriate use for media, ranging from books or newspapers to photos or videos. In digital lifeworlds, much has changed in terms of how this role is fleshed out. Information is now stored and processed at an astronomic scale, and the internet has started to approximate something H. G. Wells once called a “world brain.”¹⁶

Secondly, people are part of a *collective epistemic subject*, in which capacity they help establish or, more commonly, maintain standards of inquiry, the various types of rules constitutive of the current *episteme*. Whereas in the first role I myself figure things out, according to certain standards, in this second role I hold others to certain standards and help create those. So, this role is about the maintenance of the *episteme*. For many people, the ways in which they fill the role of contributor to, or sustainer of, the information environment is rather passive, typically consisting in compliance.

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Nonetheless, the role as such has been transformed in the digital age since the way we gather information has been affected considerably through the availability of digital media: we may Google things, or have information sent our way from certain platforms.

Thirdly, persons are *individual epistemic objects*, getting to be known by others as delineated by rules concerning what information about oneself may be shared. This role is that of an information holder, or provider—the role of a *known*. It is about managing privacy, which comes with many complications. Expectations around the role of individual epistemic objects apply both to oneself and to others: there are limits to what we are supposed to reveal about ourselves, which depend on whom we interact with, and there are expectations around what kind of information we are supposed to reveal about others, or otherwise ways in which we make it possible that they get to be known in certain ways. What we feel or believe itself increasingly is data that can be gathered or inferred from other things we do, such as clicks. We can be tracked and traced in all sorts of ways. We are subject to much surveillance.¹⁷ Accordingly, this role has been much boosted through the transition to digital lifeworlds. People may even become well known through the way they share things about themselves and thus become influencers.

Finally, individuals are part of a *collective epistemic object*, in which capacity they maintain and contribute to the pool of what is known about us collectively and help ascertain what to do with it. This last role is that of a contributor to data patterns, parallel to that of the maintainer of the epistemic environment in which information is gathered. Digital lifeworlds have brought lasting changes to data gathering because we can now be known collectively in ways that draw on an immense pool of indirectly inferred information about our inner lives and private acts that nonetheless give rise to known patterns of human behavior, thought, and feeling. This kind of understanding of human patterns would have been unthinkable before.

¹⁵ So I use the term “actorhood” in the sense in which it is used by sociologist John Meyer in his world-society approach. See Georg Krücken and Gili S. Drori, eds., *World Society: The Writings of John W. Meyer* (Oxford: Oxford University Press, 2010).

¹⁶ H. G. Wells, *World Brain* (Worcestershire, U.K.: Read Books Ltd., 2016).

¹⁷ For recent discussion, see Zuboff, *The Age of Surveillance Capitalism*.

Epistemic Rights in the UDHR and Beyond

With this understanding of the four roles of epistemic actorhood in place, the vocabulary of epistemic rights and epistemic injustice captures ways in which such actors can be wronged. This paper does not explore the notions of epistemic rights and epistemic justice themselves, nor does it establish that epistemic rights can be human rights.¹⁸ For present purposes, I assume it is clear enough what it means to speak of epistemic rights as rights protecting individuals in those roles, and that it is plausible enough in light of the importance of knowledge for human life that epistemic rights can be human rights. Let us see to what extent epistemic rights already play a role in the human rights movement as it has evolved.

English writer H. G. Wells, who died in 1946, and whom I briefly mentioned above, is best known for science fiction like *Time Machine* and *War of the Worlds*. But, he was also a clairvoyant social critic who offered progressive visions at a global scale. As a way of safeguarding the future, he advocated prominently for a universal declaration of rights.¹⁹ The importance of access to knowledge is present throughout Wells's work, especially in his efforts to frame such a document.²⁰ His declaration includes eleven articles, fewer than the UDHR, but on average they are longer. The first includes a "right to live":

Every man is a joint inheritor of all the natural resources and of the powers, inventions and possibilities accumulated by our forerunners. He is entitled, within the measure of these resources and without distinction of race, color or professed beliefs or opinions, to the nourishment, covering and medical care needed to realize his full possibilities of physical and mental development from birth to death. Notwithstanding the various and unequal

qualities of individuals, all men shall be deemed absolutely equal in the eyes of the law, equally important in social life and equally entitled to the respect of their fellow-men.

So, the right to live itself implicitly appeals to the importance of knowledge by insisting each person be entitled to partake of the legacy accumulated by humanity, including presumably the accomplishments of the mind. Wells introduces the "right to knowledge" as Article 4:

It is the duty of the community to equip every man with sufficient education to enable him to be as useful and interested a citizen as his capacity allows. Furthermore, it is the duty of the community to render all knowledge available to him and such special education as will give him equality of opportunity for the development of his distinctive gifts in the service of mankind. He shall have easy and prompt access to all information necessary for him to form a judgment upon current events and issues.

Wells covers freedom of thought and worship separately. But, while epistemic rights were on the radar of advocates for a universal declaration, the term "knowledge" does not appear in the UDHR. Nonetheless, epistemic rights are quite present: rights we can understand as protecting both individual and the collective knowers, as well as individual knowns. What is distinctly missing are rights protecting collective knowns.

To begin with, the individual epistemic object is safeguarded in Article 12 through protection from arbitrary interference with privacy, family, home, or correspondence, and from attacks upon honor and reputation. But, the bulk of epistemic rights in the UDHR is about protecting the knower. First of all, we find freedom of thought and conscience in Article 18. Freedom of opinion and expression appear in Article 19, interpreted broadly as including freedoms to hold opinions

¹⁸ See in particular Catherine Kerner and Mathias Risse, "Beyond Porn and Discreditation: Promises and Perils of Deepfake Technology in Digital Lifeworlds," *Moral Philosophy and Politics* 8, no. 1 (2021): 81–108, <https://doi-org.ezp-prod1.hul.harvard.edu/10.1515/mopp-2020-0024>. The notion of epistemic justice is due to Miranda Fricker, *Epistemic Injustice: Power and the Ethics of Knowing* (Oxford: Oxford University Press, 2007). For an account of epistemic rights, see Lani Watson, "Systematic Epistemic Rights Violations in the Media: A Brexit Case Study," *Social Epistemology* 32, no. 2 (2018): 88–102, <https://doi.org/10.1080/02691728.2018.1440022>. Watson also makes the connection to human rights and argues that there is an overlap between human rights and epistemic rights. The earlier philosophical discussion about epistemic rights was grounded in explorations of the nature of epistemic justification, with one agenda-setting article being Fred Dretske, "Entitlement: Epistemic Rights Without Epistemic Duties?" *Philosophy and Phenomenological Research* 60, no. 3 (2000): 591–606, <https://doi.org/10.2307/2653817>. The point there was to explore what kind of statements somebody is entitled to make even when they cannot do the kind of work to justify them. See also Leif Wenar, "Epistemic Rights and Legal Rights," *Analysis* 63, no. 2 (2003): 142–46, <https://doi.org/10.1093/analysis/63.2.142>.

¹⁹ For Wells's political thought, see W. Warren Wagar, *H. G. Wells and the World State* (New Haven: Yale University Press, 1961); John S. Partington, *Building Cosmopolis: The Political Thought of H. G. Wells* (Burlington: Routledge, 2016). For his work on human rights, see John S. Partington, "Human Rights and Public Accountability in H. G. Wells' Functional World State," in *Cosmopolitics and the Emergence of a Future*, eds. Diane Morgan and Gary Banham (Basingstoke: Palgrave Macmillan, 2007). See also James Dilloway, *Human Rights and World Order: Two Discourses to the H. G. Wells Society* (Nottingham: H. G. Wells Society, 1983); Peter Ritchie-Calder, *On Human Rights* (Enfield, U.K.: H. G. Wells Society, 1998). For his influence on the process that led to the UDHR, see Teru Hamano, "H. G. Wells, President Roosevelt, and the Universal Declaration of Human Rights," *Life and Human Rights* 9 (Autumn 1998): 6–16; David C. Smith and William F. Stone, "Peace and Human Rights: H. G. Wells and the Universal Declaration," *Canadian Journal of Peace Research* 21, no. 1 (1989): 21–26, 75–78, <https://www.jstor.org/stable/23609935>.

²⁰ H. G. Wells, *The Common Sense of War and Peace* (London: Penguin, 1940), chapter 10.

without interference and to seek, receive, and impart information and ideas through any medium and regardless of frontiers. Cultural rights indispensable for dignity and the free development of personality appear in Article 22, and it may not be too much of a stretch to read this as a right protecting the collective knower. Article 26 then formulates a right to education, a crucial right protecting individual knowers:

- (1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.
- (2) Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.
- (3) Parents have a prior right to choose the kind of education that shall be given to their children.

Finally, Article 27 articulates the right freely to participate in the cultural life of the community, to enjoy the arts, and to share in scientific advancement and its benefits, which again we can read as epistemic rights protecting the collective knower.

From here epistemic rights have found their ways into the legally binding human rights conventions, and they also appear in other fundamental legal documents. For instance, the Charter of Fundamental Rights of the European Union (2000) states that “everyone has the right to the protection

of personal data concerning him or her” (Article 8). One has a right to own one’s intellectual property, protected by the World Trade Organization’s TRIPS agreement. And, to mention just one other example in the international context, there is the General Data Protection Regulation of the European Union from 2018. To mention a domestic example, the UK’s 2000 Freedom of Information Act grants individuals rights to information held by public authorities. Many more examples could be added.

Since the late ‘70s, scholars and activists have talked about three generations of human rights, with the first comprising civil and political rights; the second economic, social, and cultural rights; and the third collective or solidarity rights.²¹ The distinction was inspired by the themes of the French Revolution: liberty (*liberté*), equality (*égalité*), and fraternity (*fraternité*). Epistemic rights are subsumed under these categories, with “knowledge” making no explicit appearance. This generations model hardly intends to capture a linear progression in which one generation gives rise to the next and disappears. Instead, the generations are interdependent and interpenetrating, much as needs recognized in one era would continue to be needs even after more needs are recognized. Since the 1980s—so for almost as long as talk about generations has been around—there has been sporadic talk of a *fourth*. What fourth-generation rights are supposed to cover has varied, from future generations or genetic lineage to women, indigenous people, or technological change.²² The notion of a fourth generation matters as a way of developing the human rights project. For two reasons, I submit that human rights as they apply in *digital lifeworlds* should count as that next generation, and that such rights would prominently include epistemic rights.

First of all, digital lifeworlds only emerged after the first three generations had been formulated in analog lifeworlds. Given the overwhelming importance of digital lifeworlds for human life, it is only fitting to see this fourth generation as connected

²¹ This distinction among generations goes back to Czech jurist Karel Vasak. For example, see Karel Vasak, “Human Rights - A Thirty-Year Struggle,” *UNESCO Courier* 30, no. 11 (1977): 28–29, 32. First-generation rights deal with liberty and participation in political life, protecting individuals from excesses of state power. Such rights include the right to life, equality before the law, freedom of speech and thought, freedom of religion, and rights to a fair trial and political participation. They can trace their origins as far back as the Magna Carta of 1215, the English Bill of Rights of 1689, the American Declaration of Independence and Bill of Rights, and the French Declaration of the Rights of Man and of the Citizen. Second-generation rights are related to equality and became prominent after the Second World War. Economic, social, and cultural rights guarantee an equal status as citizens beyond civil and political rights. They include a right to work and rights to specific conditions of employment; rights to food, housing, and health care, as well as social security and unemployment benefits; and then also a right to education. In the US, in 1944, Franklin D. Roosevelt proposed a Second Bill of Rights that included many such rights. Third-generation rights cannot be exerted by individuals in isolation, and thus are either collective or solidarity rights. They include rights to self-determination, development, humanitarian assistance, a clean environment, but then also rights of sexual, ethnic, religious, or linguistic minorities as such.

²² For an overview, see Teresa M. Thorp, *Climate Justice: A Voice for the Future* (Houndmills: Palgrave Macmillan, 2014), chapter 1. The footnotes towards the end of the chapter contain excellent references to various articulations of fourth-generation human rights. For an influential effort to declare that a fourth generation of human rights has to be about women’s rights, see Radhika Coomaraswamy, “Reinventing International Law: Women’s Rights as Human Rights in the International Community,” *Bulletin of Concerned Asian Scholars* 28, no. 2 (1996): 16–26, <https://doi.org/10.1080/14672715.1996.10416197>. For an understanding of fourth-generation rights that connects them to the integrity of genetic lineage, see Norberto Bobbio, *The Age of Rights* (Cambridge: Polity, 1991). For discussion, see also Fernando Falcón y Tella, *Challenges for Human Rights* (Leiden: Martinus Nijhoff Publishers, 2007), 66.

In the part of the world shaped by liberalism, democracy, and capitalism, the main tendency has been to strengthen capitalism *rather than* liberalism or democracy. Accordingly, we now find ourselves in surveillance capitalism rather than in democratized, digital lifeworlds with strong rights protections.

to them. As we noted, China has updated its system of party rule in the last decade, rearticulating and reasserting its operations for digital lifeworlds. In the part of the world shaped by liberalism, democracy, and capitalism, the main tendency has been to strengthen capitalism *rather than* liberalism or democracy. Accordingly, we now find ourselves in surveillance capitalism rather than in democratized, digital lifeworlds with strong rights protections.²³

Secondly, while it remains to be seen to what extent digital lifeworlds will take humanity beyond Life 2.0, Life 3.0 could plausibly emerge only from these lifeworlds. Therefore, reflection on digital lifeworlds is a suitable starting point for the kinds of rights needed in Life 3.0, a life that would put into an entirely new place a species that has become so dominant it could name the present geological era after itself (the “Anthropocene”). Accordingly, a fourth theme (in addition to *liberté, égalité, and fraternité*) might be integration (*intégration*, to stick with the French)—integration of humans into the rich possibilities of digital lifeworlds that include entities surpassing human intelligence. So, after the first generation was concerned with protecting personhood, the second with relative status, and the third with collective endeavors of sorts, the fourth concerns humanity’s relationship with entities of similar or larger intelligence that would share our lifeworlds—entities of an entirely different sort than non-human animals.

If this much is plausible, then epistemic rights—based on those that already exist, but also taking into account current realities and future possibilities—should be core components of that fourth generation: next steps in the development of the human rights project. Epistemic rights are already extraordinarily important because of the epistemic intrusiveness of Life 2.0 and need to be even stronger and more extensive than what the UDHR and subsequent documents from the analog world provide. In Life 3.0 itself, these rights would also have to secure the distinctiveness of human life in the presence of other intelligence that deserves a substantial moral status all its own. Thus, epistemic rights in that scenario would include a right to exercise human intelligence.

Digital Lifeworlds and the Stages of Human Life

Let us say more about digital lifeworlds by way of embedding them into a way of thinking about the stages of human life proposed by Max Tegmark.²⁴ To begin with, life itself is a process that can retain complexity by replicating. What is replicated is both matter (“hardware,” consisting of atoms) and information (“software,” consisting of bits). That is, life is a “self-replicating, information-processing system whose information (software) determines both its behavior and the blueprints for its hardware.”²⁵ Some life is intelligent, in that it collects information about its environment through sensors, processing it to act back on its environment. Gathering and processing occurs in a broad range of ways and levels of complexity, from bacterial stimulus-response mechanisms to the complex interpretation of our environment the human eye enables our brains to perform.

In the first stage, Life 1.0, both hardware and software evolve through mutation and adaptation across generations. For individuals, all is fixed at birth. Bacteria cannot individually learn anything about their environment that is not part of their DNA. In Life 2.0, hardware arises through evolution, but software is to some extent designed by living individuals. The transition to Life 2.0 is gradual, as altogether the distinctions among these stages are untidy. It is partly for that reason that this nomenclature is useful, as one could add fine-tuning to talk about Life 2.1, 2.15, etc. But, a major difference between initial and later stages of Life 1.0 is the emergence of consciousness, which drives the transition to Life 2.0.

For humans, neither hardware nor software is fully available at birth. That human bodies grow outside the womb means the potential for growth is not capped by the size of the womb. That brains do most learning in ways beyond activating what is transmitted through DNA means the limits of learning are not prescribed by DNA. Individuals acquire much software through learning, first as prescribed or suggested by our environment, and later under our own direction. Information contained in DNA has not evolved dramatically in the last

²³ Zuboff, *The Age of Surveillance Capitalism*.

²⁴ Tegmark, *Life 3.0*.

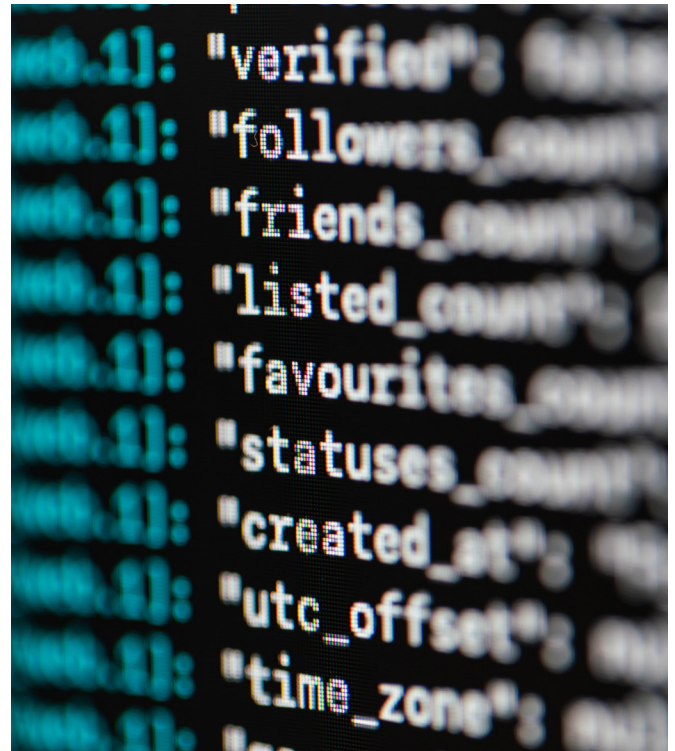
²⁵ *Ibid.*, 25.

several thousand years, but meanwhile information we have stored collectively has exploded. Ever since the development of scripts, pools of information can be preserved with accuracy and grow over generations. Historian David Christian calls us “networking creatures,” emphasizing that collective learning characterizes our species.²⁶ Over time, information has also been used to develop sophisticated technology that provides scaffolding for later generations to use and enhance information. The internet now, in principle, allows everybody to access all public knowledge through a few clicks.

This informational perspective on life also allows us to illuminate the importance of epistemic rights. To begin with, let us distinguish the applicability of normative considerations from the presence of normative practices. Normative considerations *apply* when they illuminate a particular context or the role of certain entities. Environmental ethics applies to ecosystems, but ecosystems cannot participate in *practices* in which normative considerations are articulated. Normative considerations apply to Life 1.0, but Life 1.0 cannot sustain normative practices, as those necessarily involve a sense that we make choices, and thus, a self-conscious “we” to begin with. If future space travelers come to a planet where all indigenous life is 1.0, one would hope respect for such life would guide them, even though these lifeforms could not participate in normative practices.

Life 2.0, however, does sustain normative practices, and they concern the design of the current stage of collectively built software and how each person should fare in it. To the extent that they involve coordination of complex cooperation through language, these practices as we know them involve only humans. Within normative practices of our Life 2.0, human rights play a distinctive role. Their point is to protect each of us from common abuses that, as history reveals, arise from human organization. That is, their point is to protect each of us from the rest of us. Epistemic rights specifically protect individuals as beneficiaries of, and participants in, the designed software of Life 2.0, the use of intergenerationally accumulated information. To the extent that we can understand life from an information standpoint, we also see the relevance of rights that concern knowing and being known.

The limits of the possibilities of the human body—hardware constraints—have been pushed in recent centuries, through better understanding of nutrition, hygiene, social parameters of health, and typical causes and courses of diseases. Nonetheless, what we can do with all the accumulated information and resulting technological capacities remains constrained through limits imposed by the fragility of our bodies. That would be different in Life 3.0, where both software and hardware is designed. Much as the evolution



of consciousness drives the transition to Life 2.0, so digital technology drives the transition to Life 3.0. Digital lifeworlds link human beings, powerful machines, and abundant data in intricate and complex ways whose potential we are just beginning to comprehend.

For now, these lifeworlds firmly belong to Life 2.0 and concern the digitalization of accumulated information, with all the processing such digitalization makes possible with ever-increasing computational capacities and refined software and hardware engineering. But, it is also from within the technological possibilities thus created that those who command contemporary technology increasingly push towards forms of life in which its physical containers themselves are part of what we—and then they—design. And, it is those tendencies that might eventually lead to living arrangements populated by genetically enhanced humans, cyborgs, and uploaded brains, as well as advanced algorithms embedded into any manner of physical device. If there is an intelligence explosion (singularity)—which would happen from within our digital lifeworlds—then genetically or technologically unenhanced humans, which are ironically those who created those lifeworlds, would be intellectually inferior to Life 3.0’s other inhabitants, and might find that life unbearable or unwelcoming.

What is remarkable about our current digital lifeworlds is that they make individuals known to governments, to companies, and to each other in ways they never were in analog

²⁶ David Christian, *Maps of Time: An Introduction to Big History* (Berkeley: University of California Press, 2004), part III.

lifeworlds. Thereby, individuals also contribute to behavioral patterns that government and corporations can use to shape the future as they want it to be. Since possibilities for self-knowledge are also increasingly shaped by digital media, in the process governments and corporations can also increasingly shape what kind of possibilities for self-knowledge highly networked humans may have. It is in light of these rather overbearing possibilities, to reconnect to the previous section, that fourth-generation human rights must include substantially strengthened epistemic rights to protect personhood in digital lifeworlds.

The emergence of Life 3.0 is compatible with Life 1.0 and Life 2.0 still being around. But, indeed, living arrangements for unenhanced humans could be precarious: they may not be tolerated as actual participants rather than fringe figures, perhaps much the same way dogs are now. But, unlike dogs, they would know that it once was different: as opposed to Life 1.0 being integrated into Life 2.0, Life 2.0 being integrated into Life 3.0 would be conscious of the transition. Once Life 3.0 is on its way, there inevitably would be normative practices that involve human beings and the synthetic forms of life that evolved from within our digital lifeworlds. It would no longer just be humans working out among themselves what appropriate treatment amounts to, especially appropriate treatment of any one person in the presence of all others. Instead, in Life 3.0, one kind of normative discourse would have to be about humanity as such receiving the right kind of treatment vis-à-vis other entities that could claim an elevated normative status all their own. Among other things, this would mean that protecting humans as epistemic actors would not just be protecting them in terms of various facets of access to information; it would also mean protecting them as they exercise the distinctly human form of intelligence in the first place.

The Data Episteme: Infopower in Digital Lifeworlds

With this characterization of digital lifeworlds as part of Tegmark's informational approach to human life in place, let us approach digital lifeworlds and their relevance for humanity from a different angle: that of the nexus of knowledge and power analyzed by Foucault. Foucault has made the notion of knowledge complicated in ways in which it had largely not been seen before. A brief contrast with Francis Bacon will be useful for context.

Once Life 3.0 is on its way, there inevitably would be normative practices that involve human beings and the synthetic forms of life that evolved from within our digital lifeworlds.

Long before there was Francis Bacon the 20th century artist, there was Francis Bacon the statesman and thinker of early Stuart England. As a philosopher, he was celebrated for establishing and popularizing an inductive methodology for scientific inquiry. His famous dictum "knowledge is power" is an early but paradigmatic statement of scientific optimism: knowledge is acquaintance with facts and regularities "out there"; how to get acquainted with them is teachable; and with assistance of the right methods, knowers are empowered to do things much better than others ever could.²⁷ That Bacon was a politician would mean he grasped the usefulness of scientific understanding for statecraft. What was not on his radar was the idea of an intimate two-way relationship locking knowledge with power. That thought, in turn, permeates Foucault's work.

Foucault insists that "there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time, power relations."²⁸ While the Baconian tradition thinks of knowledge as initially residing outside of the value-laden domain of politics—where power operates—to which it could subsequently be imported, Foucault contends that what passes for knowledge is always already influenced by power relations. As noted in section two, every era has its structure of thought, a worldview—perhaps more than one—that inquirers can evade only under great strains (if at all) and that also constrain self-knowledge, an understanding of one's personhood and place in the world. The term *episteme* denotes this kind of grounding in conditions of possibility that always already reflect the power relations of the era.²⁹

²⁷ Bacon's dictum appears in his 1597 *Meditations Sacrae*, and is presented almost as an afterthought. See Francis Bacon, *Francis Bacon: The Major Works*, ed. Brian Vickers (Oxford: Oxford University Press, 2008), 81–101. On Bacon, see Stephen Gaukroger, *Francis Bacon and the Transformation of Early-Modern Philosophy* (Cambridge: Cambridge University Press, 2001); John Henry, *Knowledge Is Power: How Magic, the Government and an Apocalyptic Vision Helped Francis Bacon to Create Modern Science* (Cambridge: Icon Books, 2017).

²⁸ Michel Foucault, *Discipline and Punish* (London: Travistock, 1977), 27.

²⁹ See in particular Foucault, *The Archaeology of Knowledge*; Foucault, *The Order of Things*; Foucault, *Power/Knowledge*. On Foucault, see Watkin, *Michel Foucault*; Gutting, *French Philosophy in the Twentieth Century*, chapter 9. All of this, of course, is theorized in Science, Technology, and Society (STS) studies.

Foucault's *Discipline and Punish* begins by observing that, in the late 18th century, the manner of punishment changed. Instead of corporal punishment, including executions in front of jeering crowds, there was a move towards workhouses and prisons. The point and purpose of punishment was no longer public cruelty but to instill obedience through compulsory discipline and routine. That is, the late 18th century witnessed a move from public, often rather chaotic practices of punishment, towards more private and insidious ones. Based on that observation, Foucault investigates where else in society related tendencies appeared—that is, where society aimed to force regular patterns upon people to make them compliant. He finds that schools, hospitals, and the military operated similarly. Society's increasingly diffuse exercise of power instills routine in people in this range of seemingly very different institutions.

Foucault famously uses the example of the prison as a panopticon, as envisaged by Jeremy Bentham. Such a prison is designed to allow an officer—indeed just one—to observe each prisoner any time while prisoners would not know when they are watched. They are always supposed to be on their best behavior. They are expected to discipline themselves, as is all the rest of society. Such self-disciplining eventually also limits the self-knowledge we can obtain. Routine encourages us to conform, and accordingly also limits our ability to construct identities that have difficulty conforming in such ways. It is not society that compels us, but we ourselves do the work to see ourselves through efforts to comply, to a point where we are compelled to conceive ourselves as docile creatures.

A society of docile routine followers can be readily controlled, partly through “an explosion of numerous and diverse techniques for achieving the subjugation of bodies and the control of populations.”³⁰ Such measures amount to the government's *biopower*, a term that, for Foucault, refers to practices of public health, regulation of heredity, and risk regulation, among many other regulatory mechanisms often linked less directly with physical health. In the process, society increasingly made those under its power legible to the government, involving intricate administrative systems for tracking identities. In due course, there would be standardized passports (by now biometrical, to verify

the person who holds it is the one named), social security numbers, identification numbers of various sorts (for governmental and business purposes), drivers licenses, credit scores, health records, and employment contracts. The birth certificate names us and grounds our belonging in a state to begin with. Eventually, we see our personhood around such identifiability and thus make ourselves docile participants in power structures thus erected.³¹

Colin Koopman recently transferred Foucault's approach to digital lifeworlds.³² The term he uses for our current system of knowledge is *data episteme*. Over and above biopower there is a new type of power that permeates society the same way: *infopower*, a kind of power that stands and falls with the data episteme. The humungous amount of data of digital lifeworlds makes possible online profiles that need to be carefully managed, and which are used for purposes ranging from staying in touch with friends and finding mates to building professional networks. It also makes possible approaches to marketing driven by data mining around demographic categorizations, ongoing cyberwars among governments globally, and unmatched levels of state-sponsored surveillance—as revealed to the global public by Edward Snowden. It makes possible the high level of data collection that makes our current stage of capitalism *surveillance capitalism*, with its complete commodification of our realities, unprecedented levels of data sharing via social media, deluges of online file sharing, algorithmic and automated market transactions, personalized genetic reporting, and the quantified selves of our wristwatches that capture the whole range of things we do day and night.

As in the case of biopower, in the age of infopower, participants make themselves compliant with the power structures that arise around the phenomena we just listed, a compliance resulting in benefits and freedom for some, but in deprivation and unfreedom for others. As Koopman puts it,

information's formatting is a work that prepares us to be the kinds of persons who not only can suffer these inequalities and unfreedoms, but can also eagerly inflict them, often unwittingly, on others who have also been so formatted. Information thus became political precisely when we became our information.³³

³⁰ Michel Foucault, *The History of Sexuality, Vol. 1: An Introduction* (New York City: Vintage, 1990), 140.

³¹ On efforts to make individuals legible, see also James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998). On identification, see Valentin Groebner, *Who Are You?: Identification, Deception, and Surveillance in Early Modern Europe*, trans. Mark Kyburz and John Peck (Brooklyn, NY: Zone Books, 2007).

³² Colin Koopman, *How We Became Our Data: A Genealogy of the Informational Person* (Chicago: University of Chicago Press, 2019). See also John Cheney-Lippold, *We Are Data: Algorithms and the Making of Our Digital Selves* (New York City: NYU Press, 2017).

³³ Koopman, *How We Became Our Data*, 155. For the view that the ubiquity of global communication flows in the present age has collapsed the separated space needed for critical reflection, and thus, in particular, undermined anything that might credibly be called critical theory, see Scott M. Lash, *Critique of Information* (London: SAGE Publications Ltd., 2002).

Let us briefly reconnect to our discussion in section one on 1948 as a breakthrough year in various domains. Koopman submits that the Wiener-Shannon theory of information was not actually a theory of *information* at all. Instead, it was, as the titles of the two stage-setting works reveal, a theory of *communication* that presupposed information as the material it would transmit. It is a theory of channels of information, not information itself. By the time Wiener and Shannon wrote, steps into the data episteme had already been taken, making people comfortable with the idea that communication would not be about wisdom or knowledge (as in the Eliot epitaph), but about something that could be called information.

The history of the term “information” speaks volumes to underlying changes in intellectual outlook. Originally, in a metaphysical sense, for X to be informed by Y meant for X to be *shaped*—given form, be in-formed—by Y, where basic cosmological principles normally would be at work to do that shaping, putting form into matter. Later on, in a more empiricist world, it came to mean for X to *receive a report* from Y. The source of form giving had shifted from cosmology to observations. The X that was being in-formed was a person’s mind, as nothing else could be a knower. But then, as John Durham Peters writes,

between the middle of the 18th and the middle of the 19th century, there arose a new kind of empiricism, no longer bound by the scale of the human body. The state became a knower; bureaucracy its sense; statistics its information.³⁴

So, the meaning of “information” changed alongside the emergence of statistics, a discipline not only bound up with the changing nature of the state since the 18th century, but also etymologically derived from “state.” Implicit in statistics

is a knower not subject to the limits of individuality and mortality that constrain a person’s mind. Statistical data, as Peters continues, are “gathered by mortals, but the pooling and analysis of them creates an implied-I that is disembodied and all-seeing.”³⁵ Once computers are developed, they do what the state has been doing for a while, though they do it more efficiently and elegantly: “they make vast invisible aggregates intelligible and manipulable.”³⁶

The software was there long before the hardware. In that sense, Wiener and Shannon’s work was both pathbreaking and reflected a path that had been embarked on decades before. Or, as Luis Mumford put it, the computer existed as a practice long before it existed as a machine.³⁷ In 1948, people were therefore also receptive to theorizing communication in terms of information, a manner of understanding communication that would amount to “the relentless encouragement of further communications.”³⁸

To anybody who has ever struggled to say anything insightful about what “information” actually *is* and about how humankind would ever have managed without that notion, it should now be clearer why from within the data episteme it is difficult to reflect on those matters. In response to that very question, a recent introduction to Wiener-Shannon theory (representatively) writes the following:

So, what is information? It is what remains after every iota of natural redundancy has been squeezed out of a message, and after every aimless syllable of noise has been removed. It is the unfettered essence that passes from computer to computer, from satellite to Earth, from eye to brain, and (over many generations of natural selection) from the natural world to the collective gene pool of every species.³⁹

³⁴ John Durham Peters, “Information: Notes Toward a Critical History,” *Journal of Communication Inquiry* 12, no. 2 (1988): 9–23, 14, <https://doi.org/10.1177/019685998801200202>.

³⁵ Ibid., 15. See also Ian Hacking, *The Taming of Chance* (Cambridge: Cambridge University Press, 1990).

³⁶ Peters, “Information,” 15. It is worth adding a few things about the similarly revealing etymology of the term “data.” The term came into English in the early 18th century mostly through mathematics and theology. It was used to describe principles or passages from scripture that served as the starting point of arguments and could not be questioned. So, much as “fact” was an ontological term and “evidence” epistemological, so “data” was a rhetorical term that determined a kind of role something had in discussion. By the end of the 18th century, there had been a shift within this rhetorical use, determined (again) by the empiricism of the age. Now, “data” meant the results of an investigation, rather than its premise. In the 20th century, then, “data” was a well-established concept, but remained largely without connotative baggage. Computer technology and information theory gave new relevance to it. Since the term was still relatively uncommon, it was adaptable to new associations, which included the disconnect from anything truth-related. Data themselves are supposed to be raw. See Rosenberg, “Data Before the Fact.”

³⁷ Lewis Mumford, *Pentagon Of Power: The Myth Of The Machine, Vol. II* (New York City: Harcourt, Brace Jovanovich, 1974), 273–75. And, that we can then understand information as a kind of data also speaks volumes. Data are what is given, and at an earlier stage that was a theological worldview before under empiricism it became observation. To think of information as a kind of data means to assume a certain standpoint from which certain observations matter. See Rosenberg, “Data Before the Fact.”

³⁸ Halpern, *Beautiful Data*, 74. The work of Ivan Illich is also much concerned with the increasing standardization of personhood in modern societies (also through streamlining in education) and suggests ways of living with technology in liberating rather than oppressive ways (in a “convivial society”). See Ivan Illich, *Deschooling Society* (New York City: Harper & Row, 1971); Ivan Illich, *Tools for Conviviality* (London: Marion Boyars, 2001).

³⁹ James V. Stone, *Information Theory: A Tutorial Introduction* (Sheffield: Sebtel Press, 2015), 20.

In other words (and with all due respect to the author), practitioners of information theory are as baffled to explain their basic notion as two young fish in David Foster Wallace's *What is Water?* are to make sense of the term "water" when it comes up in exchange with an elder fish.⁴⁰ If you live in water, you can no longer explain what water is. If you live in the data episteme, you have trouble accounting for what information is.

Epistemic Rights in the Digital Lifeworlds of Life 2.0

So, what kind of protection is needed for epistemic actorhood, first in the digital lifeworlds of Life 2.0 and then in those of Life 3.0? Or, as we can now say, what kind of epistemic rights do we need to rein in the infopower in our data episteme? In Life 3.0, human rights will need to be reconsidered. They were originally put into place to protect against threats from other humans, at a time when the only other intelligent entities around were other animals that had arisen alongside humans in the evolution of organic life. Amazing adaptation to their niches notwithstanding, those other animals were inferior to humans in general intelligence. In Life 3.0, human rights would also need to secure a moral status potentially threatened by synthetic life of a possibly enormously larger general intelligence. In the domain of epistemic rights, this will involve in particular a right to the exercise of *human* intelligence. But, before it comes to that, epistemic rights have to be formulated and secured for the last stage of Life 2.0, which is not only immensely important for its own sake but will also put humans in a position to argue that human intelligence is worth protecting.

So, let us deal with digital lifeworlds in Life 2.0 first. In light of what has been said about these lifeworlds so far, what kind of protection is needed in the four roles of epistemic actorhood? To formulate a proposal, I work with four values that, jointly with the formulation of those roles, guide us towards the protections and entitlements we need in the data episteme of digital lifeworlds. These values are *welfare*, *autonomy* (independent decision making), *dignity* (respectful, non-infantilizing, non-humiliating treatment), and *self-government* (control over leadership). I take it here that these values are clear enough, and recognizable as core values of

the human rights movement.⁴¹ The upcoming list of rights should be understood cumulatively, in the sense that rights introduced to protect epistemic actors in one role might well also protect them in others, but I will not list them again. The most important addition to the list of epistemic rights that the human rights framework already contains are rights to protect individuals in their roles as parts of the collective epistemic object.

(1) Rights to protect individuals as individual epistemic subjects (knowers)

Welfare: What is primarily needed here is a substantially boosted right to education, explicitly extended to include basic literacy in digital lifeworlds. Future economic and political possibilities—and accordingly, the exercise of power in the data episteme—increasingly depend on such a capacity.⁴²

Autonomy: Freedoms of thought, expression, and opinion, including the right to seek information, are already established as human rights. What is also needed is an explicit right to have governments and companies take measures to prevent the tools that digital lifeworlds provide to be used for the systematic spread of falsehoods that would undermine ability of independent decision making (content moderation).

Dignity, Self-government: Nothing more to be added with those rights in place.

(2) Rights to protect individuals in their roles as belonging to the collective epistemic subject

Autonomy: There already are cultural rights indispensable for dignity, such as the right to the free development of personality and the right freely to participate in the cultural life of the community, to enjoy the arts, and to share in scientific advancement and its benefits. These need to be adjusted to the

⁴⁰ David Foster Wallace, *This Is Water: Some Thoughts, Delivered on a Significant Occasion, about Living a Compassionate Life* (New York City: Little, Brown and Company, 2009).

⁴¹ Concretely, I take the focus on these values from Cass R. Sunstein, *The Ethics of Influence: Government in the Age of Behavioral Science* (Cambridge: Cambridge University Press, 2016). Sunstein explores the extent to which human core values (those four) are affected by governmental use of behavioral economics (nudging). That is a nice parallel to what we do here: explore how core values are affected by the epistemic intrusiveness of digital lifeworlds. Inquiring about that matter then would sensibly involve the same values.

⁴² Some scholars have argued that the economic inequality of recent decades is due to an imbalance in education that brought some students up to speed with present technology while leaving many others behind. For example, see Claudia Goldin and Lawrence Katz, *The Race Between Education and Technology* (Cambridge, MA: Belknap, 2008). So those students who had enough education to produce or work with technology got ahead, whereas the others fell behind.

data episteme of digital lifeworlds, and actually be taken seriously. The way infopower is exercised can only be legitimate if rights are in place that generate possibilities of participation in the design of the data episteme.

Welfare, Dignity, Self-government: Nothing more to be added with those rights in place.

(3) Rights to protect individuals as individual epistemic objects (knowns)

Autonomy: Rights to the protection of personal data, combined with much education about how important such protection is.

Dignity: There already are rights to be protected from arbitrary interference with privacy, family, home, or correspondence, and from attacks upon honor and reputation. These rights need to be adjusted for digital lifeworlds, with their new possibilities of synthetic media (e.g., deepfakes).

Welfare, Self-government: Nothing more to be added with those rights in place.

(4) Rights to protect individuals in their roles as belonging to the collective epistemic object

Self-government: There is a need for the right to substantial control over collected data. One hallmark of the data episteme is that a humungous amount of data is being collected. Control over them needs to be broadly shared. *This is the most important genuine addition to the body of existing human rights.* When the UDHR was passed in 1948, nothing like this data deluge and the possibilities of use by government and companies was on the radar.

Welfare, Autonomy, Dignity: Nothing more to be added with those rights in place.

As far as epistemic rights are concerned, we need a right to the exercise of genuinely human intelligence.

Epistemic Rights in the Digital Lifeworlds of Life 3.0

If a full-fledged Life 3.0 emerges, it will do so from within our digital lifeworlds. It might be populated by genetically enhanced humans, cyborgs, and uploaded brains, as well as advanced algorithms embedded into any manner of physical device. If there is an intelligence explosion from within our digital lifeworlds, genetically or technologically unenhanced humans would be intellectually inferior to other inhabitants. Moreover, as creatures from Life 2.0, they would not be able to design their own shapes and, thus, also be inferior in terms of longevity and practical abilities to entities that can do so. Unenhanced humans might find Life 3.0 uncomfortable and unwelcoming. The most likely response to that discomfort would be that humanity would advance by enhancing itself.

Normative practices would inevitably change. The new kinds of entities human research and ingenuity made possible need to be accorded a moral status all their own—a status that would not just be reducible to that of humans or other animals. Beyond the current human-rights corpus there would have to be new moral and legal rights and standards to sort out the complex relationship among these various entities.⁴³ Human rights would need to be expanded beyond rights protecting “each of us” from “the rest of us” to rights protecting “us” from “them,” much as that kind of protection would also have to prevail the other way. As far as epistemic rights are concerned, we need a *right to the exercise of genuinely human intelligence*—to use the human mind with all its power and limitations that reflect millions of years of evolution of organic life, a right that would need to hold even as we find ourselves surrounded by general intelligences vastly larger than ours.

⁴³ For reflection of possibilities in Life 3.0, see Tegmark, *Life 3.0*, chapter 5.

It is a distinctive possibility that these new intelligences would have little patience for us, and might even extinguish us (as Stephen Hawking, for one, warned shortly before his death).⁴⁴ So, how could one argue for such a right? To begin with, these new entities would have been designed by us, or have sprung from technologies that emerged from digital lifeworlds. Human intelligence and the larger context of evolution of organic life, with all the shortfalls such enhanced life would inevitably see instantly, made synthetic intelligence possible to begin with. Non-carbon-based intelligence cannot *evolve* from human, organic life: if it comes to exist it would have to be created by humans. This would presumably not merely be a matter of nostalgia, but the foundation of a profound respect for the human form of intelligence. Support for such an argument for respect could come from the secular meaning-of-life literature. The same reasons philosophers have offered for why human life would not be pointless in a godless and uncaring universe could also explain why non-human life would have good reason to endorse a right to the exercise of a genuinely human intelligence—the kind of right needed to protect human knowers and knowns in Life 3.0 beyond what is already needed in Life 2.0. Let me make this point here only through a brief reference to Bertrand Russell and Ronald Dworkin.

Bertrand Russell was one of history's most prolific thinkers, a seminal figure in multiple areas of mathematics and philosophy. One of his best-known pieces, a classic contribution to the secular meaning-of-life literature, is his 1903 article "A Free Man's Worship."⁴⁵ The point of that article is to take full account of the intrinsic meaninglessness of the physical universe, including its godlessness, and to explore where all this would leave us by way of understanding the point of human existence. Russell possessed current knowledge of the natural sciences as of around 1900. That knowledge makes clear that, in all likelihood, there are no gods, and all there is to nature is a swirling mass of minuscule particles and waves that follow certain regularities. Science puts to a crude awakening all thinking that saw us high up in a theologically or otherwise metaphysically conceived "great chain of being." In particular, there is nothing in or about the world that could answer questions about the point or purpose of human life. Instead, we could only provide these answers from within ourselves, from an internal human standpoint.

The good news is that we can indeed do *that much* because we have the kind of mind that allows us to do so. As Russell writes, in the heavy prose he used in his essays those days:

Man is yet free, during his brief years, to examine, to criticize, to know, and in imagination to create. To him alone, in the world with which he is acquainted, this freedom belongs; and in this lies his superiority to the resistless forces that control his outward life.

And then a bit later:

In this lies Man's true freedom: in determination to worship only the God created by our own love of the good, to respect only the heaven which inspires the insight of our best moments. In action, in desire, we must submit perpetually to the tyranny of outside forces; but in thought, in aspiration, we are free, free from our fellow-men, free from the petty planet on which our bodies impotently crawl, free even, while we live, from the tyranny of death. Let us learn, then, that energy of faith which enables us to live constantly in the vision of the good; and let us descend, in action, into the world of fact, with that vision always before us.

And yet a bit later:

The life of Man, viewed outwardly, is but a small thing in comparison with the forces of Nature. The slave is doomed to worship Time and Fate and Death, because they are greater than anything he finds in himself, and because all his thoughts are of things which they devour. But, great as they are, to think of them greatly, to feel their passionless splendor, is greater still. And such thought makes us free men (...) To abandon the struggle for private happiness, to expel all eagerness of temporary desire, to burn with passion for eternal things—this is emancipation, and this is the free man's worship.⁴⁶

That is, human beings vis-à-vis each other can put their brains to work in such a way that most of the things we have long cared about—everything we have always associated with human accomplishment—are grounded in *lifeworlds* of shared human experience. We literally live the life of the mind: that the human *brain* enables *that* kind of life makes it an awesome thing worthy of respect for other life forms capable of extending respect.

⁴⁴ Rory Cellan-Jones, "Stephen Hawking Warns Artificial Intelligence Could End Mankind," *BBC*, December 2, 2014, <https://www.bbc.com/news/technology-30290540>. See also Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford: Oxford University Press, 2016).

⁴⁵ Bertrand Russell, "A Free Man's Worship," in *Mysticism and Logic Including A Free Man's Worship* (London: George Allen & Unwin, 1976), 25–30.

⁴⁶ *Ibid.*



More recently, Ronald Dworkin echoed the same kind of thought in a discussion of a secular understanding of sacredness.⁴⁷ Dworkin understands human life as the highest product of evolution, in the (non-presumptuous and fully secular) sense that it features enormous complexity, mental abilities, and self-awareness. In addition, each life represents efforts of civilization, parental care, and so on to be able to flourish or even mature. So, human life for good reason generates awe *in us*, admiration, inspiration—enough to generate intrinsic, objective value. That value should also be enough to generate a right to the exercise of genuinely human intelligence in the presence of more intelligent creatures. To fully put the epistemic rights in place that should apply in the digital lifeworlds of Life 2.0 would also make us worthy of such a right to the exercise of human intelligence in Life 3.0.

Conclusion

In contrast to China's enormous efforts in the decade between 2010 and 2020 to upgrade its system of governance—Communist Party rule—to a new technological level built around a stupefying amount of data collection and electronic scoring, countries committed to democracy and human rights did not upgrade *their* systems. Instead of adjusting democracy and human rights to the new technological possibilities,

those countries ended up with *surveillance capitalism*. It is vital for the sheer survival of those ideas about governance to perform such an upgrade. The present project aims to contribute to that. I have proposed a framework of epistemic actorhood in terms of four different roles, and characterized digital lifeworlds and what matters about them in terms of both how they fit in with Max Tegmark's distinction among various stages of human life and how they give rise to their own type of episteme, the data episteme, with its immense possibilities of infopower.

A set of epistemic rights that strengthen existing human rights—as part of a fourth generation of human rights—is needed to protect epistemic actorhood in those roles, which would go a long way towards performing this kind of update. In the long run, as we progress into Life 3.0, we need a new kind of human right, the right to the exercise of genuinely human intelligence. But, the good news is that, to the extent that we can substantiate the meaning of human life in the uncaring world natural science describes to begin with, we can also substantiate such a human right vis-à-vis non-human intelligent life. And, we will have to hope that arguments of this sort can persuade a superior intelligence—whose intelligence, by definition, is massively beyond ours, and hard for us to anticipate.

⁴⁷ Ronald Dworkin, *Life's Dominion: An Argument About Abortion, Euthanasia, and Individual Freedom* (New York City: Knopf, 1993), chapter 3.

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