

Introduction: What Would Ursula Franklin Say?

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Dr. Ursula Franklin is an interdisciplinary icon: she was a pacifist, an environmental activist, a metallurgist trained in experimental physics, and a philosopher of technology. Her honour as the first woman to receive the designation of University Professor at the University of Toronto in 1984 speaks magnitudes of her influence, as well as the gendered barriers both she and her colleagues faced in the academy. She spent her academic life advocating for pacifism, gender equality, and public good values for technology, while also making great strides in the material sciences. Franklin ranks as an original and pioneering theorist of technology whose critical and generative inquiry of technology, infused with social justice, has impacted the public, policymakers, and local communities. She provided radical insight into debates around technology and its negative potentialities at a time when such innovation was considered the only technique we could use for “progress” and “advancement.”

These essays stem from the McLuhan Centre for Culture and Technology Research Working Group, *Reprising the Real World of Technology*. Our working group [1], which started in 2019, had as its goal an examination of the intellectual legacy of Franklin and her pioneering feminist/person-centred perspectives on technology. We were particularly keen to map the themes and concerns she addressed throughout her career onto contemporary scholarly endeavours at the University of Toronto surrounding technology and society. Notably, these include issues and ethics redolent in contemporary discourses about “innovative” and

“disruptive” technologies of datafication; artificial intelligence and algorithms and their impact on social justice including equity, inclusion, and diversity; data discrimination; privacy; and resilient communities.

Franklin’s interdisciplinary background makes for unique materialist, practice-based analyses of media and their design; approaches now taken up in various trajectories such as media archeology, new materialism and infrastructure studies. Contextualizing her work from lived experience, Franklin’s philosophy of technology was also uncommonly Canadian-centric, often pointing to Canadian policies and regulations which solidified inequity in the tech sector and beyond. Indeed, her work on the Science Council of Canada in the 1970s helped shape those policies and regulations. [2]

Noting that her work has been under-cited in the current literature on social justice and technology, the mission of our working group was to reprise and reinvigorate Franklin’s legacy as both a role model and a theorist. Her ground-breaking CBC Massey Lecture series, *The Real World of Technology* (1989, 1999) [3], is the catalyst for this special essay series, *What Would Ursula Franklin Say?* It has been more than thirty years since Franklin delivered the Massey Lectures in 1989 and almost twenty-five years since its expanded version was published in 1999. Describing technology as practice and as a system, Franklin encouraged us to examine the social class of experts, the changing nature of community and issues of power and control. She argued for attentiveness about how digital technologies affect relations of time and space, individual and collective responsibilities [4], and provided a bridge between the humanist traditions of early 20th century Europe and the technological explosion that began after WWII and the defeat of fascism that continues to echo today.

Thinking with Ursula Franklin’s *Real World* is expansive and exacting, often bringing forth new insights upon each read or listen. What is striking about her work is its application to modern crises, especially today, that are brought forth by technologies and their infrastructures, operations, and human connections. In this text, there are strong theories of worker’s resistance, environmental collapse, ideologies of control, extractive practices, protest, and refusal.

Our contributors to *What Would Ursula Franklin Say?* apply Franklin’s ideas to contemporary and historical issues in music, faith, agriculture, artificial intelligence, social media, communications, energy, and peace. [5] Five key and interrelated themes that emerge from these creative, lively, and reflective pieces include: *Sound and Silence*; *Biosphere versus Bitsphere*; *Prescriptive and Holistic Technologies*; *Reciprocity, Knowledge Sharing and Realities*; and *Social Justice*.

Letter to Ursula Franklin 1

Our collection starts with **Marita Moll’s** letter to Ursula Franklin, *Digital Indigestion, Pandemic Nightmares and Earthworms: Review of the Real World 2021*. Moll, engaged in early Canadian

public interest activism towards universal access to the internet, comments on the initial optimism that suffused internet development as well as current commercial realities stuffed with covert mechanisms of monetization and dataveillance. Reflecting on Franklin's prescient warnings about the dominance of prescriptive technologies and their devastating impacts during the COVID-19 pandemic, Moll calls up Franklin's generative "earthworm theory of social change" to forge a compassionate path forward.

Sound and Silence

Hannah Brown, in *Ursula Franklin, Daphne Oram, and the Practices of Music Technology*, provides an overview of the pioneering work of electronic music composer Daphne Oram, whose work at the BBC Radiophonic Workshop in the late 1950s ushered in developments in technological labour practices and policies, alongside evolving class and gender-based norms. Franklin's notion of technology as socio-cultural practices is applied to electronic music history, which presages contemporary electronic music labour and standardization in digital music production.

The absence of silence – urban noise assaults from transportation, construction and audible advertising – was perceived by Franklin as a social justice issue impacting quality of life. Inspired by the Quaker principle that holds silence as a path to inspiration, **Marcia Jenneth Epstein**, in *Listening to Ursula Franklin: Quiet as a Path to Peace*, examines Franklin's fidelity to environmental silence and the practice of silence for creativity, inspirational thought and spiritual communion.

In *An Ecological Understanding of Digital Environments*, **Marcin Kedzior** and artist **Will Fu** present *Bodies in Digital Systems*: visual imaginations of social media sites (Wikipedia, Instagram, Facebook, and MMORPGs) rendered as architectural spaces. These illustrations highlight Franklin's call for "an anatomy of technology" which enables a reflection on the enclosure of digital spaces and registering silence as a space of resistance.

John Shiga's evocative film, *Audible Oceans*, delves into the remains of the secretive Cold War Sound Surveillance System (SOSUS), an encompassing sonar network operated by the U.S. Navy in the Atlantic Coast whose mandate was to detect Soviet submarines. The listening station in Shelburne Nova Scotia serves as a haunting vestige of nuclear war infrastructure and highlights Franklin's cautions against the technological society of command-and-control regimes, the blurring of military and civilian life and wartime and peacetime.

Biosphere versus Bitsphere

Gaining access to technological institutions in education and work is a key ingredient in technological equality and an ongoing struggle. Throughout her career as a professor in materials science and engineering, Franklin [6] encouraged women to effectuate change, to strengthen their notion of community, to counteract the occupational segregation endemic to women in technical professions and to change the present structure by “understanding, critiquing, and changing the very parameters that have kept women away from technology” [7].

Jody Porter, in *The Awfulization of News: When the Real World of Technology Meets the Real World of Journalism*, reflects on her decades of experience as a journalist working on Indigenous issues in Canada. Through Franklin’s conception of the bit-sphere and her personal examples, Porter examines the shift in journalism to digital modes of reporting, which she argues normalizes depersonalization, decreases societal capacity for a peaceful future and eviscerates collective action for reconciliation.

In *Teaching Holistic Eco-Media: The Quadrat as Interface Between the Biosphere and the Bitsphere*, **Kate Maddalena** reflects on creative pedagogical practices that fuse the humanities and environmental science. Via the medium of the quadrat-to-landscape practice, Maddalena demonstrates the reframing of a prescriptive technology into one that is holistically engaged.

In *Personal Cyber-Data Literacy Plurality in Routinized-Prescriptive and Relational-Holistic Cyber-Regimes*, **Peter Pennefather** considers Franklin’s cautions against prescriptive bitsphere technology regimes, and delves into the nuances of cyber-data literacies, which enables individuals to use and benefit from data connected with their everyday digital practices. He argues that for meaningful communication and learning to transpire, inclusive design principles need to account for how individuals can control and own their personal cyber-data.

Prescriptive and Holistic Technologies

Franklin’s distinction between holistic and prescriptive technologies is one of her most significant contributions and remains a compelling framework. Holistic technologies are a growth model characterized by artisanship and designer control, while prescriptive technologies reflect a production model typified by specialization and a distinct division of labour. To understand the real world of technology, we need to unpack the political and social life of prescriptive technologies as extant and emerging contemporary technologies are dominated by prescriptive modes for control, compliance, efficiency and economy of scale.

In *The Real World of AI*, **Mark Surman** applies Franklin's framings of technology as a system, distinguished by prescriptive and holistic models, to better unpack the political economic power of global imperial companies that dominate the AI space. At stake is building a more just and equitable society where AI encompasses design principles of agency, accountability, and reciprocity.

Yasmin McDowell reminds us of Franklin's mindful entreaties for ensuring social responsibility, ethical values, and technological inclusion. Her contribution, *Algorithmic Prescription: A Franklin-inspired Critique of Algorithmic Management*, utilizes Franklin's elucidation of prescriptive technology and asynchronicity to unpack platform labour processes in ridesharing apps that mediate control for gig economy drivers and consumers. As McDowell illustrates, algorithmic management lessens worker autonomy and decreases meaningful communication for consumers.

Jack Jamieson examines the prescriptive and holistic elements inherent in IndieWeb, a community-built network of personal websites connected by peer-to-peer standards and software. In *Depending on Other in the IndieWeb: Navigating Holistic and Prescriptive Building in a Decentralized Social Network*, Jamieson considers the deliberate development of inclusive values to create a non-corporate alternative network imbued with people-centred values.

Brian Sutherland, in *Ursula Franklin and the Energy Transition*, provides an overview of Franklin's commitment to energy efficiency and conservation which catalyzed the creation of the *Conserver Society* journal, promoting alternatives to the widespread promotion of the consumer society. Reflecting on this work, Sutherland argues that we need to examine the current prescriptive technological order of petroculture as a social and technical system, providing examples from his own creative practice for holistic sustainable options with energy smart grids and the pervasive use and disposal of batteries in consumer electronics.

In *Technology as Social Instruction: Ursula Franklin and the Dematerialized Fashion Marketplace*, **Mark Joseph O'Connell** applies Franklin's notion of prescriptive and holistic technologies and the interrelation of education, work and governance to the fashionable. In doing so, O'Connell offers an analysis of how the COVID-19 pandemic shaped fashion consumption to be virtual and disembodied.

Reciprocity, Knowledge Sharing and Realities

Through the lens of Franklin's concept of constructed and vernacular realities, **Alan Galey**, **Ellen Forget** and **Charu Sharma** in *Reading Fictional Worlds of Technology with Ursula Franklin: Fail Safe and Constructed Realities* delve into Eugene Burdick and Harvey Wheeler's 1962 novel and 1964 film *Fail Safe*, which depicts a chilling Cold War-era dramatization of the threat of nuclear war between the U.S.A. and the U.S.S.R. They argue that such fiction—in this case, science fiction—

can serve as a vital facet of her notion “technology as practice” through enabling citizens to grapple with the power of the military-industrial complex and the horror of nuclear annihilation.

In her speculative design project, *Farm(hand)-to-Table*, **Olivia Doggett** creates food packaging to account for the realities of current and alternative agricultural labour. Three of Franklin’s layers of reality—constructed, vernacular and projected—inspire the design of three unique labels for describing commercially harvested white mushrooms.

Social Justice

Franklin insisted that technologies be used for social justice: ensuring equitable access to technological know-how in the workplace, universities, and domestic contexts; debunking dominant masculinist myths surrounding technology; and the creation and practice of environmentally sound communities and technological methods. [8]

The bounds of Franklin’s call for technological dissent are explored by **Jim Gerrie**, in *Ursula Franklin and the Principled “No:” The Need for a Recognition of a Right to Conscientious Technological Objection*. As Gerrie notes, Franklin was concerned that disproportionate planning and managerial responses to technological development can lead to negative transformations obviating the sustenance of resilient communities.

How to make sense of Franklin’s conception of “the house that technology has built” during an unprecedented global pandemic replete with community-wide lockdowns and the “pivot” to remote work and learning? **Steven Logan**, in *Taking Shelter: Teaching and Learning in the House that Technology Built*, reflects on the privatized spaces of the pandemic as experienced through teaching a small undergraduate course titled “Taking Shelter,” and the poignant responses from students about space, place, and the boundaries of domestic intimacy and learning.

Letter to Ursula Franklin 2

Our collection ends with another letter to Ursula Franklin. Extending Franklin’s concept of technology as practice, **Kanishka Sikri** in *Holistic Technology as Holistic Citation*, reflects on the multitudinous nature of citation—similar to technology—as practice, structure, imagination and hope.

Conclusion

Today, technology’s exuberant impact on our everyday lives forces us to reckon with Dr. Franklin’s critical frame, and hopefully turn to her for some much-needed answers. Technology and its attendant digitization and integration of artificial intelligence, driven by powerful corporations, shape the texture of our communities: the rise of smart technology and cities, the stealthy use of ed-tech in delivering curriculum, the “appification” of services from government

to food consumption, and as the COVID-19 pandemic has highlighted, the need for robust, reliable, and affordable access to digital infrastructures for remote healthcare, education, work, and timely informational updates. The pandemic also starkly amplified digital inequalities and systemic inequities, heightened surveillance capitalism, and challenged environmental sustainability.

In *The Real World of Technology*, Franklin provokes us to consider technology as an institution and structure that is socially constructed by and through people's involvement in its design and implementation. Isolating technology from those it was made by and for restricts us from adopting a critical frame to conceptually think through the inequities built into such an oppressive hegemonic structure. By adopting, instead, a "prosocial" approach, Franklin informs us that technology ought to be collaborative, socially informed, and holistic-based on experiential critical pedagogy nurturing improv, on the spot, and worker determined processes—rather than prescriptive—predetermined, boxed, and isolated methodology. Franklin's work also attunes us to the need for incorporating a feminist ethics of care to data justice: the facilitation of a more just society through fair and equitable access to technologies and skills; nurturing safe, secure, and inclusive online spaces; and aligning data privacy and human rights for all citizens with the ability to conscientiously object to data collection.

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Notes

[1] Reprising the Real World of Technology Working Group Members from the University of Toronto and their affiliation at that time included: Leslie Chan, Associate Professor, Knowledge Equity Lab, Centre for Critical Development Studies, UTSC; Stephanie Fielding, MI graduate, Faculty of Information; Sara Grimes, Associate Professor, Director of Knowledge Media Design Institute, Faculty of Information; Monica Jean Henderson, PhD student, Faculty of Information, Junior Fellow, Massey College; Saman Goudarzi, MI candidate, Faculty of Information; Yasmin McDowell, MI candidate, Faculty of Information; Katie Mackinnon, PhD candidate, Faculty of Information; Peter Pennefather, Professor Emeritus, Leslie Dan Faculty of Pharmacy; Leslie Regan Shade, Professor, Faculty of Information, Senior Fellow, Massey College, Faculty Affiliate, Schwartz Reisman Institute for Technology and Society; and Kanishka Sikri, Centre for Critical Development Studies, UTSC.

[2] Henry Trim. (2015). Planning the Future: The Conserver Society and Canadian Sustainability. NiCHE: Network in Canadian History & Environment, October 8. <https://niche-canada.org/2015/10/08/planning-the-future-the-conserver-society-and-canadian-sustainability/>

[3] Ursula Franklin. (1999). *The Real World of Technology, Revised Edition*. Toronto: House of Anansi Press.

[4] Ursula Franklin. (1996). Stormy Weather: Conflicting Forces in the Information Society. Closing Address at the 18th International Privacy and Data Commissioner Conference, Ottawa; Ursula Franklin. (2001). Every Tool Shapes the Task: Communities and the Information Highway, in M. Moll & L. R. Shade (eds.), *E-Commerce vs. E-Commons: Communications in the Public Interest Vol. 1*, Ottawa: Canadian Centre for Policy Alternatives (pp. 155-164).

[5] Our open call for papers can be found here: <https://www.mcluhancentre.ca/cfp-what-would-ursula-franklin-say>. Thanks to Monica Henderson and Yasmin MacDowell for their work on the CFP.

[6] Ursula Franklin. (1985). *Will Women Change Technology or Will Technology Change Women?* Ottawa: Canadian Research Institute for the Advancement of Women, Papers No. 9.

[7] Franklin, 1999, p. 104.

[8] Ursula M. Franklin (2006). *The Ursula Franklin Reader: Pacifism as a Map*. Toronto: Between the Lines Press; Ursula Martius Franklin & Sarah Jane Freeman (2014). *Ursula Franklin Speaks: Thoughts and Afterthoughts*. Montreal: McGill-Queen's University Press; Leslie Regan Shade & Barbara Crow. (2004). Canadian Feminist Perspectives on Digital Technology. *Topia: Canadian Journal of Cultural Studies* (Spring): 161-176.

[9] <https://reprisingtherealworld.hcommons.org/activities/>