Technology as Social Instruction: Ursula Franklin and the Dematerialized Fashion Marketplace

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Abstract

COVID-19 necessitated the accelerated growth of a powerful and aggressive new form of fashion retail: online, device-based consumption. This online migration has radically altered modern retail, from invasive marketing to engage consumers, through virtual selection and ultimately the dematerialization of the body and understanding of the self in relation to others. Canadian physicist and technology theorist Dr Ursula Franklin provided valuable insight into the processes wherein emergent technology and human behaviours enmesh within quotidian engagements. In her (brilliant) 1989 Massey College lecture series *The Real World of Technology* (1999) stated of the adoption of nascent technologies that "Many technological innovations have been introduced in order to change the boundaries of human and social activities with respect to time and space" (194). Time and space have certainly been disrupted with the technological migration of the boutique, and this virtualizing of fashion has in turn dematerialized garments completely. Thus, the engagement is primarily with the technology and not the tactile. The impacts of this are staggering as current models used for fashion manufacturing are deeply imbricated into transglobal "Fast Fashion" supply chains, a process extremely harmful to both workers and environment.

Covid Couture

One of the most clearly identifiable manifestations of fashion consumption during COVID-19 in Canada has been the necessity to transition the majority of purchases from a brick-and-mortar retail environment into a device-based, home delivery model. This dematerialization of the modern "boutique"—as it has now migrated online—has changed everything in its wake: the incipient forms of marketing to engage consumers, the re-contextualization of the body and ultimately the understanding of the self (O'Connell 2021). These profound changes catalyzed by online consumption need to be considered to grasp the fundamental changes to the social and economic impacts of Canadian fashion. Eminent Canadian scientist and theorist on technology, Dr. Ursula Franklin provided valuable insight into the processes wherein technology and human behaviours enmesh with quotidian engagements. In her brilliant 1989 Massey College lecture series, given in Toronto, *The Real World of Technology* (1999), she identified how technology was catalyzing radical shifts in social relationships and structures. In one of the lectures, regarding the adoption of nascent technologies, Franklin stated: "Many technological innovations have been introduced in order to change the boundaries of human and social activities with respect to time and space" (Franklin 1999, 194). The reason this was so significant to her was because this altering of experience of time and space had deep ramifications for sociocultural worlds as well. Much of the phenomena Franklin described can be identified in the contemporary distribution and consumption of fashion in Canada as it is both a social and economic force; and one that is now driven by technology. This article looks at the valuable insights presented by Franklin and uses them as a framework to analyze the modern systems of fashion in Canada. In her five Massey lectures, Franklin focused on three "interrelated facets" of life: "education, work, and governance" (217). In this essay, I will extend that analysis to another facet of quotidian life: the *fashionable.*

Both Fish and Water

> Those concerned with the advancement of technology, with finding new and more encompassing ways of doing things, often underemphasize the nonnegotiable embeddedness of human society in nature. No one, individually or collectively, can separate from the biosphere. You just can't opt out of nature. (Franklin 1999, 218)

Ursula Franklin was one of Canada's "most accomplished scientists and educators and one of its most renowned feminists and peace activists." A physicist working in metallurgy, her research on Strontium-90 in baby teeth was "instrumental in achieving a moratorium on atmospheric nuclear weapons testing" and in 1967 she became the first female professor of materials science and engineering at University of Toronto, and in 1984 became the first woman to receive the title of University Professor which is the highest academic rank at U of T (UToronto.ca). Although always a scientist in process and methods, Franklin also brought

refreshing alacrity to her observations. She referenced her children, her experience as a Holocaust survivor, her spiritual faith, and the anti-nuclear movement, and used examples like knitting, baking a cake, and gardening, to illustrate her highly sophisticated and powerful theoretical analyses.

As a vocal critic of Canadian industrial development and the policy that guides it, Franklin noted that since the dawn of the Industrial Revolution, fostering the growth and development of technology required a "necessary prerequisite […] support relationship from governments and public institutions" that had heretofore not existed (or been necessary). This she applies to the technologies of transport of raw resources (so fundamental to the nascent political economy of Canada) and then onto the distribution of information itself. The latter remarkable in its prescience as she was commenting on broadcast technologies in a pre-internet era. Franklin noted the development and deployment of these technologies "link the so-called private spheres of industry and commerce to the public spheres of local and central governments" (89). All of this has grown ever more enmeshed in contemporaneity. Franklin categorized the philosophy that guided the technologies of production as a system, and one that required "organization, procedures, symbols, new words, equations, and most of all, a mindset" (17). It is this identification of the mindset being of paramount significance to the process that is of particular interest and relevance to critiques of modern technological adoption with the fashion sector. Franklin stated of the adoption of nascent technologies:

> Many technological innovations have been introduced in order to change the boundaries of human and social activities with respect to time and space. In many ways, time and space are the two sides of the coin of human existence. Whatever changes one side will affect the other... (Franklin 1999, 194)

Regarding this changing of relationships between social groups—as well as nations and individuals—brought about by the impacts of technology, she asserted that many of these "changed relationships" to time and space (and the boundaries of social interaction), appear so "normal, so inevitable" (18) to a new generation, that they are accepted unreflectively as a given and are therefore left unquestioned. It is the unquestioning of the changes catalyzed by ascendant technologies that Franklin is most critical. In her analyses of the impacts of nascent technologies and practices she described—taken in aggregate—she asserts that they change what it fundamentally means to be *human*. Highly relevant to any analysis of the fashion industry, as (then and now) the machinations of fashion are grounded in consumer engagement, with all of the mediation and direction that processes of marketing and delivery bring to the transaction. Every aspect of an online purchase takes place within a technologically moderated environ from online avatars that beckon and entice, with eye tracking software spying and monitoring consumer engagement, and in turn feeding the web of analytics that compare the purchase at hand to everything a consumer has purchased online before.

Marketing and surveillance are currently an ever-present aspect of commercial virtual retail engagement (Turow 2018), and social media is how the information is delivered, thus, social interactivity and online community networking has hybridized into new invasive, pervasive forms of surveilling and selling (O'Connell 2021). Fashion consumption in the digitally and technologically mediated marketplace is not a simple process, it is one that carries with it myriad imbrications with the sociocultural.

Logics of Technology

Franklin demonstrates how it is always the technology that guides the process, and that this analysis can be applied to the manufacturing of the fashion products we buy. She separates the definition of technological development and application into two categories, the first *prescriptive technologies* and the second *holistic technologies*, and notes that they "involve distinctly different specializations and divisions of labor, and consequently they have very different social and political implications" (26). The prescriptive production model is "perceived and constructed" as a process removed from any "links to a larger context", this enables easy adoption into a "variety of situations" (39). Unfortunately, despite the apparent utility of this model:

> …[S]uch an approach discounts and disregards all effects arising from the impact of the production activity on its surroundings. Such externalities are considered irrelevant to the activity itself and are therefore the business of someone else. (39)

The pitfalls to this myopic vantage point are clear, as vital factors like "pollution or the physical and mental health of the workers—which in the production model are considered other people's problems" (39) are externalized. This can be clearly evidenced in the fashion context in the arms-length global sweatshop that has been set up in globalized deregulated fashion manufacturing. In fact, Franklin could be directly addressing the fashion industry when she stated:

> We know today that this discounting of context and the failure to consider external and interactive effects are, in fact, a ticket to trouble. We know that the deterioration of the world's environment arose precisely from such inadequate modeling. processes that are cheap in the marketplace are often wasteful and harmful in the larger context, and production models make it quite easy to consider contextual factors as irrelevant. (39)

This is perfectly applicable to modern "Fast Fashion" manufacturing, wherein human lives and the environment are currently selling cheap in the global sweatshop. The term "Fast Fashion" was popularized in *Fashion & Sustainability, Design for Change* (2012) by Fletcher & Grose in an attempt to connect it with the other "fast" aspects of throwaway consumer society, fast food for example.

There is however another model described by Franklin, and that is the "holistic." She aligns holistic technologies with the notion of craft and artisans who make "situational decisions" (26) with both their hands as well as their minds. It is a process that "grows" and is shaped by the unique conditions of the artisan, the artifact and the creative environment. Within this model, the respect for the process itself is placed paramount over the efficacy of production:

> Growth occurs; is not made. Within a growth model, all that human intervention can do is to discover the best conditions for growth and then try to meet them. In any given environment, the growing organism develops at its own rate. (38)

Franklin contrasted these holistic and prescriptive technologies and stressed the differences in their respective divisions of labour. "It is characteristic of prescriptive technologies that they require external management, control, and planning." They thus reduce workers' "skill and autonomy." They are however "exceedingly effective" in terms of "invention and production" (73). What is gained in efficacy is accompanied by a commensurate loss in creativity and mutability of the process itself.

The fundamental difference between the two models is that in the prescriptive model, things are "made," and fabricated in conditions which are "at least in principle, entirely controllable" (38). Even where such control is not "complete or completely successful" there is at least the assumption that "implicit in the model itself, that improvements in knowledge, design, and organization can occur," and as a result all "essential parameters" (38) are controllable. All production becomes stabilized and "predictable" in this model. Growth is not so predictable, however; therefore, it is considered unreliable and suspect. This has led to prescriptive production models adopted as "almost the only guides for public and private discussions" directing both policy generation and industry, even in contexts where the growth model "might have been more fruitful or appropriate" (40). This has huge impacts on both how things are done, and the ideological parameters around how they *can* be done:

> The unchallenged prevalence of the production model in the mindset and political discourse of our time, and the model's misapplication to blatantly inappropriate situations, seems to me an indication of just how far technology as practice has modified our culture. (45)

The "modifications" to culture catalyzed by the production model are considerable as there are larger impacts of the ubiquitous adoption of this model. As Franklin observed: "Fascination with new technologies can change the focus of our perception of what is actual and real" (206). The impacts of technology and the larger systems thinking that accompanies it, directs thought as well as action, conditioning us to "accept orthodoxy as normal and to accept that there is only

one way of doing 'it'" (34). Even when the model is wholly unfit for the production, as Franklin states "... technology is planned and run on the basis of a production model that is no longer appropriate for the tasks that we want to undertake" (45). Through basic operating models, the fashion industry creates a myriad of problems. These occur locally but have global impacts. Fashion manufacturing in its current configuration typically consists of a product being designed in affluent countries and produced in developing economies through an intricate web of sub and further sub-subcontracting activity (Fletcher, Grose & Hawken 2012). Current globalized models of fashion production are a disaster for both workers and environment, toxic fashion production is a major hazard both for workers and the environment; it has contributed to widespread pollution, labour exploitation that has led to tragedy, and to the profligate depletion of natural resources. For the workers actually making the garments, that impact can at times prove to be fatal, the 2013 collapse of Rana Plaza in Bangladesh for example, where 1,129 garment workers were killed and 2,500 injured (Thomas 2018; Malik & Najar 2015; Talaga 2015). How clothes are designed, produced, manufactured and distributed has a massive global impact.

Cultures of Compliance

I am not just referencing Franklin's production models as they relate to the manufacture of fashion, I am also relating her theoretical explorations to the consumer engagement with these goods, as it is a prescriptive structure in which we currently shop for our clothing. Fashion is now shaped (shopped & shipped) by our experiences, thereby mediated by a web of prescriptive technology. This would undoubtedly be a red flag for Franklin as the prescriptive was also fundamentally directive in both ethos and execution for her:

> [T]hese prescriptive technologies that now encompass almost all of technological
> activity are, in social terms, designs for compliance, and in this I find one of the
> most important links between technology, society, and culture. (44)

These "designs for compliance" are coded into the portal and thus structure the system. The effects of this are categorized by Franklin as the "cultures of compliance" (125) a process wherein: "the division of labour characteristic of prescriptive technologies has resulted in the acculturation of people into a culture of conformity and compliance" (125). Extremely relevant to the study of what is happening in the contemporary fashion marketplace is Franklin's observation on these cultures of compliance that are put in place, with their accompanying technologies. Online retail technologies monitor, track, collect, and then direct consumer engagement through a pervasive and thick web of data analytics. This infrastructure in turn shapes the consumer as the "common practice of particular technologies can identify people and give them their own definition; it also identifies and limits the content of what is permissible" (44). Thus, the definitional capabilities offered by the technology also function as a

constraint. Parameters delimit what the consumer sees, providing only a chimera: desired but illusory. The incipient forms of delivery of fashion information constitutes a cipher-based commodity transaction, as garments are purchased as an idea, a visual metaphor of what said garment *represents*, an idea and therefore the purchase of an emotion, and nothing more.

This is exactly what has happened since COVID-19. The virtualizing of fashion consumption has in turn dematerialized garments completely. The Canadian fashion consumer by necessity turned to the virtual since with the exception of the most essential (food & medicine) all brick-and-mortar retail was shuttered. As a result, any engagement with fashion during Covid-19 was with slick simulacra, daydreams, and digital fantasies; an impossible promise of a beautiful, de-corporealized perfection (O'Connell 2021). This process wherein the creation of a clothed, image-based cyber-self precedes the actual wearing is also indicative of an ongoing process of cultural evolution. In the case of modern fashion consumption, if the logic of the technology is one that supports the process of acquisition, it is unfortunately not one that is grounded in the wearing, and certainly not in the keeping of the garments. It has thus dematerialized the material. The mediation of the prescriptive technologies obscures important aspects of the true nature of the product. It also overpowers and "displaces other types of social logic," and these other forms of social logic are categorized as the logics of "obligation […] ecological survival" even the "logic of linkages into nature" (Franklin 1999, 126). Physical aspects of clothing have been de-valued by the technology of modern capitalism, and they are now as ephemeral and placeless as the mechanism for their acquisition (O'Connell 2021). True, we now have access to a nearly limitless array of offerings, but what is offered is only a perversion of a message of freedom and individuality through connection to this endless stream of what is fundamentally homogenous product (Braidotti 2013). As such it is also an ongoing pursuit of a desire for change. Garments are inevitably cast aside, starting the acquisition process all over again. For it is in the choosing, the process of acquiring within the compulsive, haptic, videogame like movements on minute screens, that the modern commercial engagement with fashion happens (O'Connell 2021; Turow 2018; Braidotti 2013). Not in the wearing, and certainly not in the keeping. Ultimately it is the purchase of a fantasy.

A lucrative and high-volume fantasy nonetheless, as the Canadian consumer engagement with online fashion has grown exponentially. According to Statistics Canada due to the impacts of COVID-19 from February to May 2020, total retail sales in Canada fell 17.9%. However, during this same time period e-commerce sales nearly doubled (+99.3%) (Alston, Vipond, Virgin & Youssouf 2020). This spike in online retail is reflective of a larger trend in Canada, and undeniably all other wealthy countries. In the Canadian context, retail e-commerce sales "reached a record $3.9 billion in May, a 2.3% increase over April and 99.3% increase over February ($2.0 billion)," also year over year saw e-commerce "more than doubled—with a 110.8% increase compared with May 2019" (Alston, Vipond, Virgin & Youssouf 2020). Although

there is a nearly limitless array of garments available now, they are nearly all enmeshed within a particularly destructive capitalist model of manufacture. This dematerialized fashion is a fantasy only for the consumer only, as the impacts of manufacture are all too real for the workers involved. As was seen with such horrific fashion disasters as Rana Plaza, and the fashion factory fires that happen with a sickening regularity. The linkages with the humanity of the workers are broken but the consequences for those workers are no less dire and real.

Conclusion: Dematerializing the Agora

> [A]ll of us need nourishment for body and soul and the interface between the bitsphere and the biosphere is a risky place for both body and soul. (227)

It would be very interesting to hear what Franklin would have to say about the emergent fashion consumerist experience that is engaged with today—both in manufacture as well as consumption. The former, as it is demonstrably destructive to the worker, and the latter which is arguably destructive to the psyche of the consumer. Franklin was explicit in critiques of how prescriptive technologies were the models employed exclusively within Canadian industry—and not just at the level of manufacturing, she identified that they also shaped the philosophies that guided larger societal structures:

> Just as prescriptive technologies have, in the real world of technology, overwhelmed holistic ones, so have production models now become almost the only pattern of guidance for public and private thought and action. (44)

Technology is providing social instruction, as per Franklin, and it is not just time and space that are now remade through our technologies, it is also our personas. Canadian fashion consumers are shaped by our methods of consumption as much as by our goods now; consumption of it needs to be noted that is always mediated by technology. The application of prescriptive technologies requires compliance all throughout the systems of production and distribution: "...advanced applications of prescriptive technologies require compliance not only from workers, but also from those who use the technologies or are being processed by them" (125). This "acculturation to compliance and conformity" (36) is constantly reinforced by the processes of engaging with the technologies, and our parameters grow ever narrower as our analytics are finer and finer tuned. COVID-19 only hastened a process that was already well under way before the lockdown of the majority of Canadian stores. This has resulted in retail processes that are fundamentally disembodied, and a non-tangible product engaged with by consumers, yet one which also has myriad ancillary impacts for the environment and the people who make the garments. Describing this interconnectedness, Franklin states "how does one speak about something that is both fish and water, means as well as end?" (20). Thus, the overarching technologically mediated ontology of both sides of the current fashion spectrum (worker to

wearer) now causes a fundamental disconnect between the true material nature of the garments themselves and what they in turn represent for the consumer.

Franklin generously offered us alternatives. She was not just a social critic and scientific researcher; she was also a lifelong dedicated pacifist and feminist. Although always a scientist in her process and methods, she also brought a refreshing alacrity to her observations, using metaphors like knitting, baking a cake, working in the garden, as ways of illustrating her highly sophisticated theoretical analyses. This was not put in as a folksy feel-good way of getting to know her, or as an icebreaker to warm up the audience in order to make one more fond of Franklin (although it certainly does *all* of these things). No, in my mind she was entirely strategic in her use of the personal environ, her lifeworld. Because it was exactly that viewpoint and perspective that was missing in the decision making and judgment forming capacities of the powers-that-be. Her examples were provided as a way of both situating herself as legitimate commentator, a stakeholder in the processes that guided both the introduction of new technologies and the direction of society; as well as showing how her viewpoint offered potential solutions to major societal issues that were precluded by vantage points of the majority voices guiding policy and industry then *and* now).

What would Ursula Franklin think about all this? She has given us a pretty clear direction even if she never experienced any of the fashion technologies described in this essay. Her conclusion to her Massey lectures was that our love of new technologies bred isolation instead of connection, and that government policy focused primarily on supporting nascent technologies at the expense of citizens and the environment. This certainly has not changed; if anything, it has gotten worse! For Franklin, time and space were reconstituted by technology, but when it comes to online fashion, it is place, process and now *people* that are also being remade. With remarkable prescience, the corrosive mediations of the technology that is fundamental to modern Canadian fashion manufacture and distribution were predicted by Franklin in the 1980's, and long before any of this technology was even imaginable.

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