





# Life Less Normal

*Is that how we lived then? But we lived as usual. Everyone does, most of the time. Whatever is going on is as usual. Even this is as usual, now. We lived, as usual, by ignoring. Ignoring isn't the same as ignorance, you have to work at it.*

—Margaret Atwood,  
*The Handmaid's Tale*

We've heard a great deal about *normal life* since the early spread of Covid-19 and the ensuing lockdowns in countries worldwide. Plenty has been said about a departure from *the normal*, and questions about the disruptions we must endure to reduce the spread of the novel

coronavirus, and to eventually help find a way back to normal.

Through critical thinking in feminist, race, and intersectional scholarship, however, we know that this so-called normal—ordinary life before Covid-19—is suffused with complications and acute social issues [1]. For those too often assigned to the margins—people of color, the homeless, the colonized, the disabled, the low-waged, the unemployed, the displaced, and so on—normalcy relies on long histories of prejudice and continued exploitation. For many millions, globally, *the normal* is a life in precarity that demands continued endurance.

As we live through the Covid-19 pandemic, these inequalities are becoming increasingly apparent. Coverage in the popular press has shown just how widespread and deeply rooted the effects of the imbalances are, and how lethal their consequences can be. From hardships felt by low-paid key workers and those on the front lines, to the disproportionate numbers of deaths among ethnic populations in ostensibly wealthy, modern enclaves (most strikingly among health workers in the Global North), the brutal inequities and injustices of late capitalism are palpable.

In computing and design, and through parallel research in science

and technology studies, we also know that technological systems and scientific programs serve to sustain many of these injustices (e.g., [2,3]). Technoscientific systems and infrastructures that seek to monitor and optimize human behavior and productivity, or that manage the functioning and health of bodies, enforce an idea of normal that obscures the brutal realities and erases those at the margins, sometimes violently.

At this time of worldwide disruption from *the normal*, then, it seems another question we could be asking is whether we want to reimagine what, exactly, we want to return to. And, for technology and its design, we might ask what versions of the future we might imagine that disrupt the troubling normalcy that marks our times. The question I want to think with here is: *What worlds are we making possible?*

Let's start then with this idea that will be familiar to many readers—that is, how the *status quo*—what we think of as *normal*—masks and erases those at the margins of society. From the ongoing coverage of the Covid-19 pandemic, we know that crises can make visible those who are usually out of sight, the “left out” [4]. Such disruptions to *the normal* also bring into sharp relief the technoscientific systems that the few profit from, and how these systems are reliant on discrimination and exploitation [5]. So the exploitation of gig workers, cleaners, migrants, carers, and people involved in mass food production and supply chains are a necessary part of sustaining *the normal*. Crises like this one surface the dependencies intrinsic in ordinary society and who is exploited to maintain normalcy.

For me, the critical point here is that the challenges we're facing are deeply structural and are deeply entangled with the sociotechnical systems we work on in designing technology (see Katrin Fritsch's article [6]).

Think about this with respect to the spread of Covid-19. The efforts to limit its impact have, of course, been varied and uneven. There have been reports of the virus and its technologies of mitigation and containment being used to reassert the balance(s) of power and wealth in society, and to exert control over the already marginalized and exploited—a biopolitics of our time.

This impact is set alongside concentrated incidences of job losses, as well as fraud and crime [7]. For us, I think, questions must be asked of how technologies and versions of technoscience are being mobilized. Everything from access to testing and ventilation equipment, to the machinery for “rebooting the economy,” to distributing state-backed welfare, need to be examined to understand how the sociotechnical, the sociopolitical, and healthcare are being entangled. And how these entanglements are amplifying already deeply set injustices and discrimination.

The point I want to make here is not just that the technologies we envision and work on play an active role in these conditions. Nor do I want to make overblown claims about the impact the research many of us have conducted has had on the technology sector. Rather, my claim is that we, in our urge to design technological systems that appeal to the many, are inexorably intertwined in worlds that furnish and sustain the conditions for exploitation and discrimination. We are not innocent bystanders serving up neutral technologies or indeed fixes (see Nicole and Daniela Rosner's and Ali Alkhatib's articles in this issue); we are integral and complicit in worlds that make many lives a lot less like *the normal* we are accustomed to and, to be frank, a lot less bearable.

I've struggled here to choose an example to illustrate this point, not because there are too few, but because the examples are everywhere once we

choose to notice. Let me illustrate my argument, then, by first touching briefly on a realm of work that has been central to interactive systems design pretty much from its inception, remote collaboration and videoconferencing. I then want to turn to what might seem an unrelated area, the technoscientific capacities that enable exploitative, global animal farming and food-supply chains. Placed together, spanning varied realms and scales, we'll see that the ideas and logics in technology and its design intertwine with many of the inequities that are surfacing during the coronavirus crisis.

Videoconferencing, for many of us, has become a regular feature of work during the pandemic. With daily calls via Skype, Zoom, and Microsoft Teams, those in interaction design will recall the seminal research covering the interactional challenges of remote working via video, and the human work involved in coping with dropouts and partial views of interlocutors and the spaces they are working in. We will also remember that videoconferencing was seen as one way of creating a more accessible workplace for those with disabilities or who need to work flexibly. Who could have imagined that videoconferencing and the troubles of remote talk would have come into their own in the time of a global pandemic?

Yet what many in design will have also overlooked, including myself, is just how divisive, societally, remote, computer-based work would be in 2020. Covid-19 has made it strikingly clear that a significant proportion of undervalued and low-wage work must by and large be performed in person. Those most at risk in society—careworkers, cleaners, bus and delivery drivers, packaging and factory workers, and so on—are at risk because they simply have to physically be at work, and at the same time don't have the privilege or choice not to work.

The turn to knowledge work in computing was then a turn away from the less privileged and a corresponding investment in a very narrow and distinctive class in society, the wealthy and educated. And in turning the attention away from those who have to be at work, there was a corresponding turn away from large swaths of ethnic populations and race groups. The shocking statistics of Covid-19's

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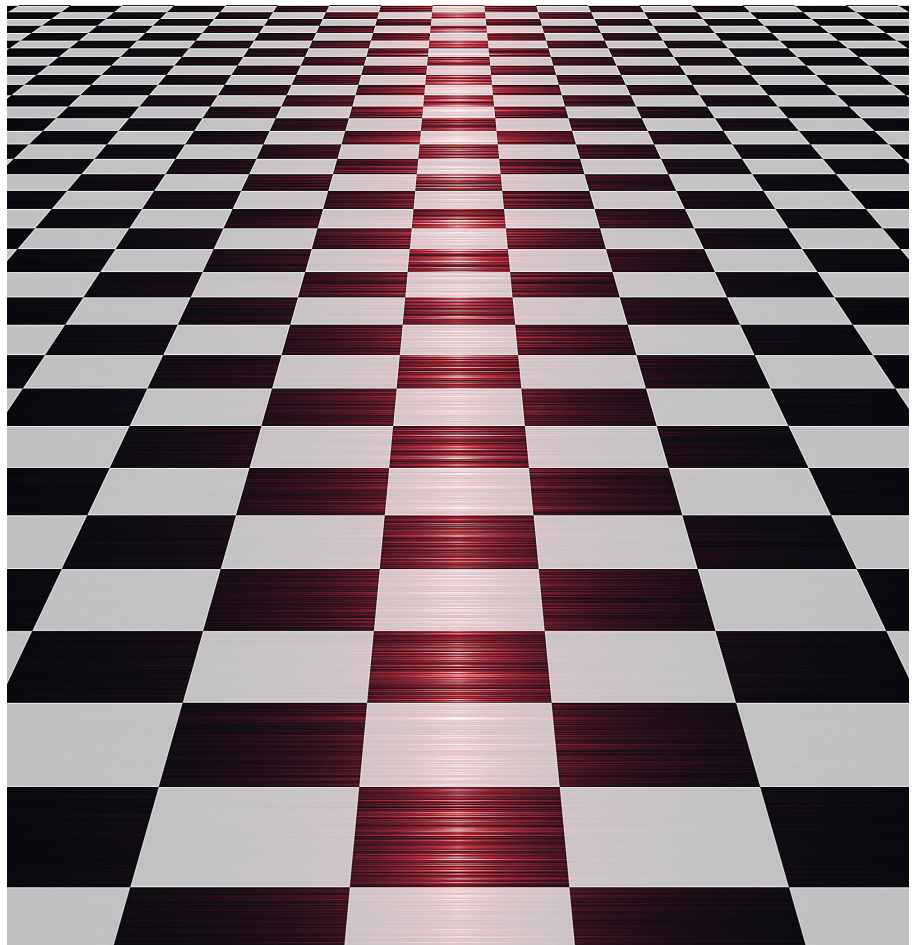
**We, in our urge to design technological systems that appeal to the many, are inexorably intertwined in worlds that furnish and sustain the conditions for exploitation and discrimination.**



disproportionate impact on Black, Asian, and other minority groups will take some time to fully explain. However, among other important determinants, I'm confident a critical factor will be the need to be physically at work.

Again, the point to consider here is not that computing and the research into remote work and videoconferencing are the direct cause of the inequities that surround us today. Nor is it to suggest we've not contributed to programs that seek fairer and more equal access to ICT. It's that we have played—arguably unwittingly—a part in furnishing a world in which the wealthy and privileged have the choice to work remotely, to isolate and socially distance, and to stay safe. Interactive systems and their design are part of a rationalizing of work and labor that makes a version of normal possible, perhaps even probable. In responding to the current crisis, I believe it is then incumbent on us first to notice how we are implicated in these worlds and then to think how we might use our design methods and outputs to create the conditions for many more potential worlds, and for alternatives that might just offer better ways of living and dying together.

We turn now to the seemingly distant world of animal farming and food-supply chains. In recent weeks, understandable attention has been given to wet markets in China—those that sell live animals and often exotic species. We must acknowledge, however, that the dangers are a good deal closer. Consider the results of an article published in 2018 by epidemiologist Madhur Saharan Dhingra and her colleagues [8]. The authors use a survey of avian flu viruses to show that highly pathogenic cases are far more likely to emerge through commercial poultry farming and intensive production systems, and correspondingly their occurrence is more likely in high-income countries. It's also conditions like these that accelerate the spread of zoonotic diseases, diseases that make the jump between species. Avian flu and coronaviruses are thus more likely to move between species and to humans in factory-farming conditions, where animals are kept tightly packed and huge quantities of effluent have the opportunity to flow between systems of food production [9].



Of course, we know that the scale of this farming and scope for the spread of diseases relies on technologies that sense physiological functions, monitor activity, and track the mass transportation of bodies. Although we might argue that the concerns of interactive systems design are a long way from animal farming, a very particular logic of bodies is being applied that feels not unfamiliar. Bodies, here, are reduced to quantitative measures and optimal metrics for maximum productivity yields. Moreover, value is assigned and generated through the production and proliferation of data and the transactional potential it affords. We might not be directly involved in designing and building technology for factory farming, but our work is deeply entangled in a logic that enables it and allows it to perpetuate.

Consider this further down the supply chain. The human labor of food production, so often hidden from us when normalcy prevails, is, in this crisis, attracting attention [10]. The pandemic is revealing the precarity of low-wage immigrant populations who ordinarily

work thanklessly to supply us with food. With these workers routinely classified as unskilled and easily replaceable, we see not only how undervalued people's lives can be, but also how critical they are to normality. Again, a technoscientific logic operates here, one of extraction where systems of monitoring and surveillance are deployed to extract maximal labor from people working across global supply chains. Far more sophisticated than the Taylorism applied to the factory floor at the turn of the 20th century, algorithmic technologies manage and optimize globally distributed supply chains against demand, locating human labor among the flows of just-in-time production. The remarkable achievement is that maximum extraction and productivity operates across scales and locations, from the factory farm, to laborers along the supply chain, to the infrastructures of circulation. It's hardly surprising that human bodies, and indeed other living bodies, appear marginal, if not expendable.

Of no coincidence are the parallels with the remarkable work from Lilly

Irani [11] and Noopur Raval [12]. They show how the piecemeal tasks of Turkers and the monitored activities of gig workers slot into interlocking technoscientific and capitalist logics. Our medical-imaging software and takeaway orders, for instance, so much a part of the everyday and in different ways recognized as critical in the pandemic, at once depend on a normally invisible labor that sustain flows of capital and wealth worldwide.

It should then be clear that the technologies we are preoccupied with in computing and its design—technologies that count, monitor, calculate, identify, and circulate, all across geographically dispersed networks of fiber and wireless communication channels—are implicated in a version of normal that is exploitative and unjust. The intensive farming of animals and our food-supply chains are just examples of where computing and computational technologies afford and sustain logics in which inequity and exploitation are prerequisites. Although this structural machinery undergirds our dependence on an injustice that feels removed from us, it aligns with the same axes of power and wealth, *and* amplifies the conditions in which nonhuman-born viruses can establish themselves and thrive in humans.

In computing, I believe we need *ways of understanding* how technology and technoscientific infrastructures create very particular conditions for sociotechnical relations and indeed multispecies relations. For example, how technoscience is implicated in deforestation and the massive depletion of wildlife habitats; how it affords a machinic logic in the transportation and slaughter of animals; how it persists in reducing human labor to counts and metrics; and how it creates the conditions for microbes and what emerge as human pathogens to flourish literally in our *backyards*.

I also believe computing and design must face the challenge of imagining how life might be otherwise, in and after the pandemic. Perhaps it is about more than asking *what worlds we are making possible*. The question to be asked could be: *What technoscientific interventions might make other worlds possible?* And we could also consider asking what it might

mean to be more responsive and responsible in these worldings, ensuring the conditions for many more actors to have a place at the table.

Of particular inspiration for me here is the anthropologist and design ethnographer Anne Galloway. In New Zealand, Anne lives among a flock of sheep, *is* one of the flock [13]. For her and—I hope—the sheep, this is a project of being and becoming, of designing the conditions for “new places and new ways with, and for, each other.” In living and dying with her, the flock share with Anne (as she does with them) alternative worlds that may just be possible. That is, in being and becoming together, they keep open the possibilities of recognizing and acting responsibly for one another’s lives. Crucially, this isn’t to ignore or erase the differences and inequities. Anne remains attentive to her roles and those of her companion sheep, seeking to stay with the troubles that come with multiple and often unequal positions. The attention Anne pays to the manifold relations and to imagining the conditions of possibility operates, of course, at a scale that is a long way from the risks that have triggered and sustained Covid-19. Yet, at the same time, it offers a guide to discovering different ways of valuing life, of living and dying together. We find that building the conditions for a shared and collective becoming together—that is honest about the troubles—may be just what we need to turn our attention to.

Finding ways to mitigate the spread of Covid-19—supporting, for example, contact tracing, symptom tracking, and immunity certification are undoubtedly important goals. The longer-term challenge for those of us invested in design and technology’s proliferation must be, however, to look beyond these immediate fixes. We need to be asking what multiscale modes and practices might be reimagined to be responsive to and responsible for the seemingly separate technoscientific realms of managing human pandemics and caring for our sociotechnical and multispecies relations. We need to be imagining worlds that resist singular or monolithic ways of valuing life, that question the logics of extraction and transaction, and

that make possible a multiplicity of ways of living together.

ENDNOTES

1. Crenshaw, K.W. When blackness is a preexisting condition. *The New Republic*. May 4, 2020; <https://newrepublic.com/article/157537/blackness-preexisting-condition-coronavirus-katrina-disaster-relief>
2. Yusoff, K. *A Billion Black Anthropocenes or None*. Univ. of Minnesota Press, 2018.
3. Star, S.L. and Strauss, A. Layers of silence, arenas of voice: The ecology of visible and invisible work. *Computer Supported Cooperative Work (CSCW)* 8, 1–2 (1999), 9–30.
4. Bhambra, G.K. Rethinking Brexit in light of Covid-19. *Discover Society*, April 22, 2020; <https://discoversociety.org/2020/04/22/rethinking-brexit-in-the-light-of-covid-19/>
5. Klein, N. *The Shock Doctrine: The Rise of Disaster Capitalism*. Macmillan, 2007.
6. Fritsch, K. Back to normal?! Data and technology in times of crises. Medium, Apr. 14, 2020; <https://link.medium.com/gJLbOuFxFK6>
7. Donovan, J. Social-media companies must flatten the curve of misinformation. *Nature*. Apr. 14, 2020; <https://www.nature.com/articles/d41586-020-01107-z>
8. Dhingra, M.S. et al. Geographical and historical patterns in the emergences of novel highly pathogenic avian influenza (HPAI) H5 and H7 viruses in poultry. *Frontiers in Veterinary Science* 5 (2018), 84.
9. Shah, S. Think exotic animals are to blame for the coronavirus? Think again. *The Nation*. Feb. 18, 2020; <https://www.thenation.com/article/environment/coronavirus-habitat-loss/>
10. Angry Workers. ‘Don’t call us heroes’: Life on a production line. *Vittles* 6.3, Apr. 16, 2020; <https://vittles.substack.com/p/vittles-63>
11. Irani, L. The cultural work of microwork. *New Media & Society* 17, 5 (2015), 720–739.
12. Raval, N. and Dourish, P. Standing out from the crowd: Emotional labor, body labor, and temporal labor in ridesharing. *Proc. of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing*. ACM, 2016, 97-107.
13. Galloway, A. Flock. In *Anthropocene Unseen: A Lexicon*. C. Howe and A. Pandian, eds. punctum books, 2020, 203–206.

✦ **Alex Taylor** is a sociologist at the Centre for Human Centred Interaction Design at City, University of London. With a fascination for the entanglements between social life and machines, he does research that includes empirical studies of technology in everyday life and speculative design interventions.  
→ [alex.taylor@city.ac.uk](mailto:alex.taylor@city.ac.uk)