19 Tilt the Scroll to Repair: Efficient Inhuman Workforce at Global Chains of Care

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> High quanta of energy degrade social relations just as inevitably as they destroy the physical milieu.
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> —Ivan Illich (1974)

> [We] must rethink the question of "reproduction" in a planetary perspective. Reflecting on the activities which reproduce our life dispels, in fact, the illusion that the automation of production may create the material conditions for a non-exploitative society, showing that the obstacle to "revolution" is not the lack of technological know-how, but the divisions which capitalist development reproduces.
>
> —Silvia Federici (2009)

The numerous user interfaces encountered in everyday life play an essential role in obscuring and diluting the material realities of the global chains of production and reproduction that structure the world around us. This is especially true when it comes to the many tangible and intangible workforces that are triggered by our mundane on-screen clicking and scrolling behavior. In this chapter, we claim that user interfaces act as a well-engineered capitalist machine that disconnects users from the material complexities of global chains of commodity and data production—and also social reproduction—with the aim of increasing economic profit. Thus, we believe, it is necessary to trace the connections that exist between things—as well as the workload involved in the basic maintenance of those connections—if the user is to fully understand the systems they operate within in order to balance and repair the profoundly asymmetrical distribution of agency, energy, labor, time, care, and resources within these planetary networks. In this chapter, we will draw on feminist economics (Waring 1999; Federici 2012; Pérez Orozco 2014) and historical efficiency criticism (Jevons 1865; Illich 1973) to shine a light on the complexity that sits at the heart of platform capitalism (Srnicek 2016; McAfee and Brynjolfsson 2017; Weatherby 2018).

On June 17, 2019, in Utrecht, artist Joana Moll[1] (n.d.) purchased *The Life, Lessons & Rules for Success: The Journey, the Teachable Moments & 10 Rules for Success Cultivated from the Life & Wisdom of Jeff Bezos* from the Amazon website. The web browser used to buy the book was Firefox Quantum 67.0.4, installed on a Dell XPS 13 computer that used the operating system Ubuntu 18.04.2. In order to place the order, the customer was forced by the Amazon website to go through 12 different interfaces composed of large amounts of computer code—normally hidden from view. This code executes various operations, such as composing the site's content, supporting interactivity, and tracking the user's activity—that is, their clicks and scrolls. Overall, Moll saved 1,307 different requests to all sorts of scripts and documents, totaling 8,724 A4 pages' worth of printed code, adding up to 87.33 MB of information per hour. The amount of energy needed to load each of the 12 web interfaces, along with each one's endless fragments of code, was approximately 30 watt-hours.

Infamously, Amazon's business model is based on "obsessive customer focus," entailing "constantly listening to customers to enhance and improve the customer experience" (Premack 2018). In other words, their business relies on continuous monitoring and recording of their customers' behavior and activity to improve the monetization of each user, thereby increasing Amazon's revenue. These processes are carried out by cookies and other supporting technologies embedded on websites, apps, videos, and other digital media formats. When a user visits a website, tracking software will automatically trigger the collection of user data, which is now owned by the company that executes the tracking (e.g., Amazon, Google, Facebook)—and which it has a legal right to exploit.

The act of buying (for example, a book on Amazon) has thus been turned into a tracking and monetization device, with the aim of adding layers to the already-complex setting of power relations online—including user profiling, social sorting, task assignment, energy use and waste, and smoothening of liberal logi(sti)cs. Put differently, the 8,724 pages of code that track and personalize a user's behavior and shopping experience on the website—and that were involuntarily loaded by the customer through the browser—are evidence of Amazon's core money-making machinery at work. This machinery that sustains the patriarchal-colonial regime that determines how power is distributed along hands, territories, and whole modes of existence at large. Moreover, this distributive operation implies that all the energy needed to load this relatively large amount of information was effectively demanded from the user, who ultimately assumed not just part of the economic cost of Amazon's hidden monetization processes but also a portion of its environmental footprint.

The Hidden Life of an Amazon User

All these aspects are drawn on in *The Hidden Life of an Amazon User*,[2] an interactive artwork that details the intricate labyrinth of interfaces, code, and energy that make possible the purchase of Jeff Bezos's book—with the aim of casting light on Amazon's often unacknowledged but aggressive exploitation of their users, which is embedded at the heart of the company's business strategies. Such strategies would not work on apparently neutral, personalized user experiences afforded by convenient user interfaces. These interfaces conceal the sophisticated business models embedded in endless pages of indecipherable code, all of which are set in motion by the user's labor—again, clicking and scrolling—and hence based on a hidden mode of delegation. In turn, these strategies incur a significant energy cost, part of which is involuntarily assumed by the user. To put it bluntly, not only is the user exploited by means of their free labor, which allows these companies to collect and trade in massive amounts of user data, but the user is also forced to assume part of the energy costs of such exploitation (see figure 19.1).

Figure 19.1
The Hidden Life of an Amazon User at BIG D@T@! BIG MON€Y! Exhibition, curated and produced by HALLE 14 (HALLE 14, Leipzig | Walther Le Kon, 2020). The artwork integrates the following contents: a large-scale wall projection displaying a 14-minute video that scrolls down the 12 different interfaces and the 87 MB of code needed to purchase the Jeff Bezos book; the almost 9,000 printed pages of code; and Jeff Bezos' *Life and Lessons for Success*.
Source: Joana Moll.

In response, Moll's artwork accumulates, organizes, and inscribes the accountability of these energies in the form of a very specific device: the scrolling screen. The device of the scroll takes on the task of transmitting, carrying, and containing the evidence of *practices of mattering* in danger of irreversible erasure. Such mattering propagate along global chains of delegation of responsibility in diversified forms—waste, maintenance, and decision-making being some of the most outsourced. As the user interacts with the scrolling screen, and as the Amazon pages flow downward through their thick mass of code, the mundane gesture of scrolling invokes an urgent consideration of which geometries of relation configure the regime where *The Hidden Life of an Amazon User* takes place. A simple, repetitive praxis—the page scroll—activates a frictional rendering of the measurements of vectors that intersect (through the simple act of browsing an Amazon page) with the so-called life of a so-called user. During the continuous process of the scroll, three vectors are braided together—information load noted in megabytes (MB), energy rate given in kilowatt-hours (Wh), and caloric value estimated in kcal (Rocha n.d.).

Through Amazon's process of userizing—that is, turning customers into users—a form of subjective enclosure takes off from the already exclusive liberal subject to land in a flow of "nonlife" (i.e., isolated from the possibility of actively participating in how the material conditions of one's life are arranged). An agency cut takes place once the user emerges as a downgraded but translocal subjectivity: one devoid of options beyond going up and down the consumption line. The user is hence reduced to simply clicking and scrolling, in an activity that grabs energy and matter in a distributed manner across the globe. Kathryn Yusoff (2018, 2) puts it this way: "The human and its subcategory, the inhuman, are historically relational to a discourse of settler-colonial rights and the material practices of extraction, which is to say that the categorization of matter is a spatial execution, of place, land, and person cut from relation through geographic displacement."

Once personal agency is cut, the global division of labor is much easier to execute. And in this execution, what used to be called "life" is now technically turned into a (very productive) amalgam of inhuman, distributed workforces. All that matters now is energy, time, and capital relationalities. In being userized, the former human, the former customer, enters the realm of nonlife, becomes yet another disposable link in the global chain of industrial computing maintenance. The fungible user is now ready to welcome the outsourced costs and wastes of energy used by the platform: the user is ready to become a straightforward resource for the wider apparatus. In userizing us, Amazon has managed to produce its own set of inhuman workforces.

In this efficiently designed flow of nonlife, Amazon users merge with microtaskers—that is, those who spend their time occupied with care tasks such as cleaning tags,

weeding features, or arranging annotations (Barriuso and Torralba 2012): all at high speed, all of course at their own energetic cost. Erasure in the quest for accumulation has historically been the main operation executed against bodies, lands, and cultural forms. The erasure of the vibrant, energetic life of all those who have been rendered invisible—and ultimately rendered inhuman—in the name of modern, universalized extractive progress, is precisely the erasure that resonates most with the scrolling gesture at the heart of Joana Moll's piece.

Hence, the act of scrolling sets in motion a visualization of the sophisticated, opaque, transnational machinery that exploits planetary resources in needing vast amounts of energy and labor to operate. As Amaia Pérez Orozco (2016) has put it in conversation with Cristina Vega, "Understanding how care is being globalized allows us to analyze the ways in which care systems are interconnected on a global scale. It also allows us to identify the co-existence of different social conceptions of care." Thus, a complexifying analysis of agencies of use, waste, occlusion, and platform-catalyzed damage is needed for public debate, sensibilization, and transformation. An analytic remains to be done: one that examines the distribution of power, presence, and response-abilities in the computational establishment (Ali 2016), of which the GAFAM and BATX apparatuses[3] are the main drivers.

Ivan Illich's lucid essay *Energy and Equity*, first published in 1973, identifies the critical impact of our ever-increasing energy demands on the environment, the individual, and society at large. He particularly reflects on the unbalanced distribution and use of energy and time: "Beyond a certain speed, motorized vehicles create remoteness which they alone can shrink. They create distances for all and shrink them for only a few" (Illich 1974, 25). This observation can be very well applied to the contemporary act of purchasing a book on Amazon—where the five minutes and trivial human power and external energy that it took the artist to purchase Jeff Bezos's book through the website was counterbalanced by the amalgam of labor, hardware, software, time, and energy that lies beyond the interface: a million employees,[4] more than 175 warehouses worldwide, more than 150 million square feet of space, a vast international network of transportation, and a countless microtasker/computer/algorithmic workforce. Yet even though the Amazon user is the primary trigger of a huge chain reaction of events, they are blind to the material reality that lies beyond the interface, and this is particularly true for most people using (or rather *used by*) any Internet-based service. In that sense, the ease of use of these interfaces, whose ultimate goal is to smoothen the accumulation of revenue, acts as a well-designed smokescreen to conceal complexity and material waste—or, in other words, the negative externalities of capitalist means of production.

Attentive Interface Politics

Moll's work urges us to reconsider the semiotic and material conditions that render online monetized experience possible (or not) and that cast users as complicit in a whole operation of multilayered damage—in terms of distribution of labor, resource extraction, and established narratives of progress and development. Indeed, we could argue that the political fiction of efficiency is resurfacing with a vengeance. In industrial terms, efficiency has been a core driver of technological progress and economic development. In essence, the value of efficiency applied to productivity translates into producing desired results with little, or no, wasting of time and material. Yet this historical quest for efficient productivity has broken the weak and precious balance that exists in all ecosystems. In his book *The Coal Question*, the English economist William Stanley Jevons (1865) described a paradox of efficiency, now commonly known as the Jevons Paradox. He observed that, contrary to common intuition, the technological progress that improved efficiency could not be relied upon to reduce fuel consumption (Jevons 1865). He argued that efficiency lowers the amount of resources and money needed to carry out a particular activity, however, this reduction in costs increases the rate of demand of the resources that were initially economized. Even though history has proven the Jevons Paradox right, it is still generally assumed that efficiency gains will lower the consumption of resources (Alcott et al. 2008). How is it possible that such an important premise, especially under a situation of climate emergency, has been erased from the social imagination?

The narrative of efficiency is deeply rooted and actively enacted in almost every aspect of our daily lives, but its paradox is not. The invention of the steam engine in 1712 came to be embraced by the scientific community as a metaphor to explain how things work; in other words, it allows us to understand the world as machine. Far from abandoning such a metaphor in the digital age, we have an increasing tendency to see the world as a well-engineered machine capable of producing increasingly smaller, lighter, and faster products and services. Thanks to the reductionist narrative of efficiency and the capitalist idea of progress, this is acknowledged in the culture of development seen as something good—while the material reality that allows these products and services to exist is ignored. Recognizing the Jevons Paradox would inevitably mean embracing complexity and including the fallacy of efficiency in the analytics of computerized relationalities—even when we do something as mundane as purchasing a book. In the contemporary planetary-scale networked society, where every tiny action activates a vast and uncontrollable number of interconnected but geographically displaced agents, acknowledging and embracing such complexity would mean reducing

productivity and revenue, identifying damage along the multitudinous chains of supply and maintenance, and ultimately redistributing political and economic power. In that sense, collectively embracing the Jevons Paradox could potentially become a powerful political stance—a public commitment to balance and repair the profoundly asymmetrical distribution of energy, labor, and resources within global supply chains.

What we should also remember is that chains of production are always entwined with what Amaia Orozco (2007, 2) has described as "global chains of care." These are "chains of transnational dimensions that are formed with the objective of sustaining life on a daily basis, and in which households transfer care work from one to another based on axes of power, including gender, ethnicity, social class, and place of origin" (2). In the current landscape of environmental and social reproduction crisis, these chains of care are certainly thickened by, for example, the millions of microtasks involved in the maintenance of online platforms, and by the constant weeding, cleaning, and ordering of digital minutiae required for others to have a smooth online experience.

In the specific realm fabricated by Amazon, Moll's scroll aligns temporarily with Jevons to demand an attentive interface politics—in other words, a political engagement with the interface that continues to emerge for at least 14 minutes suspends the regime of efficiency. Something as simple as a page scroll invites attention to temporalities, technicalities, subjections, and discursive entanglements. The three vectors of Moll's artwork that inscribe the data of diverse powers (Mb, Wh, kcal) at the same time (conceptually) tilt the axis of the scroll obliquely, problematizing its linear ups and downs. The scroll works both as a logistic operation and as an active displacer of logics, unrolling the roughness of the 12 interfaces of a commercial exchange. Their transparent layers, which are cultural strata to sustain ongoing experience, become aesthetically opaque and ethically wrinkled.

The linearity of the scroll in Moll's work claims to be crooked, rotated, flipped, interlaced. In its coded disorientation, it asks: What transactions lie beneath, beyond, or behind the monumental source code of our banal shopping experiences? How many instances of capitalist turbouniversalism and technocolonialism are carried by this scrolling gesture? What are the nuances of totalitarian innovation (or what Donna Haraway[5] [1985] might refer to as the informatics of domination) brought about by this simple act? How can a tilted scroll—one that is oblique, nonobvious—provide us with an intersectional analytics of the multiple and hypercomputerized global chains of care, maintenance, extraction, and exploitation involved in the most mundane aspects of daily exchanges?

Conclusion

In *The Hidden Life of an Amazon User*, Moll underscores the need to add more friction (Tsing 2005) and density to the current technopolitical imagination, embodied in everyday relationships with technological devices and portrayed through simple performative gestures. such as the scroll, that activate digital services. Tilting the axis of the scroll implies considering how a "counterpolitical" scroll would operate. And for such a task, it is fundamental to challenge the GAFAM regime from a perspective of anticolonial and transfeminist intersectional analytics. The crisis of presence at the global chains of exploitation is already mundane: by user power wasted—or washed away—by a capitalist patriarchal-colonial matrix of woven and wefted infrastructures; by an infrastructure of damage arranged around supply chain events such as the domesticated labor production of microtaskers (or "Turkers"),[6] the offshore labor production of hardware assemblers; by the shipping routes that routinely trace the colonial scheme; by the waste around smelters and refiners erasing life all around; by the care workforce that shoulders all this productive weight. In sum, by a convergence of powers entwined in the project of massive extraction, growth, and control.

To continue with the urge for a denser and more complex technopolitical imagination, those global chains of care need to be scrolled up and down, sideways, and underneath. Scroll the chains away from the userized nonlife flows hidden by Amazon. Scroll the chains through to show their damage. Scroll the chains along to tilt forces and erase GAFAM & Co.'s efficient machinery. Scroll off the chains, and partially repair them through other computational geometries of relation (Snelting 2019).

Notes

1. One of this chapter's authors.

2. See https://www.janavirgin.com/AMZ.

3. Acronyms for the five biggest tech companies in the US (GAFAM: Google, Amazon, Facebook, Apple, Microsoft) and the four biggest in China (BATX: Baidu, Alibaba, Tencent, Xiaomi).

4. See https://www.aboutamazon.com/amazon-fulfillment/our-fulfillment-centers.

5. *Informatics of domination* is a term coined by Donna Haraway in "A Manifesto for Cyborgs" to refer to an emerging technosocial world order due to the transformation of power forms (Haraway 1985).

6. Mechanical Turk, as presented by Amazon, is "a crowdsourcing marketplace that makes it easier for individuals and businesses to outsource their processes and jobs to a distributed workforce who can perform these tasks virtually." Its motto is "Access a global, on-demand, 24×7 workforce." See https://www.mturk.com/.

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