Digital Precarity Manifesto

Precarity Lab

Digital technologies have helped consolidate the wealth and influence of a small number of players. By taking advantage of flexible labor and by shifting accountability to users, sharing economy platforms have also furthered increasingly insecure conditions for racial, ethnic, and sexual minorities, women, indigenous people, migrants, and peoples in the Global South. At the same time, precarity has become increasingly generalized, expanding to include even the creative class and the digital producers themselves. Too many people are living unsupported, in a deflated, indebted, precarious, cruelly optimistic way, replaced by machines or worse, always treated as more disposable and less valuable than the algorithms that increasingly condition life chances. If networked lives are always imagined as productive, virtuous, connective, and efficient, it is clear to us that these networks are broken.

But we resist tropes of crisis thinking that assume a universal state of precarity as a new, urgent state of being, prompted by digital tools. We were born under surveillance, but not all us of are equally seen. The physical and emotional labor of women and people of color has always been appropriated as a work of love, never compensated even as a "gig." So there's nothing new here for us, or more urgent; the precarity of contemporary neoliberal capitalism is a condition of life.[1] Life in network cultures is a series of economic disruptions that have produced radical inequality. It is not new, but it is different this time—it is historically specific. We cannot fix this network, as a metaphor or as a "real" thing, and it is not worth our time: we will leave this fixing to those who benefit from celebrating precarity as individual empowerment, creative work, and lifelong learning. Let's instead take a different view.

We demand a critical approach that attends to the lived experiences of precarious lives in digital cultures. We insist on sustained attention to

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sites and practices beyond the white male supremacist canon. We call for an ethics of theory accountable to the material violences of the digital. We are done with digital theories that instrumentalize critiques of the new digital economy only to affirm the same masculinist, white hierarchies of value and meaning. They exclude the analysis of race, gender, and sexuality, whether explicitly or implicitly; they produce only the same answers for the same people. We want to invest in a place that is not an echo chamber.

The networks that we inhabit are not the distributed, sturdy, and resilient networks that appear in so many computer history textbooks; rather, they are composed of hierarchical, fragile, and overwhelming female and nonwhite nodes of labor and support. The network metaphor has long lost its power as a utopian formation; the days of celebrating "the crowd" cannot end too soon, especially since most of its members, those whose labor, bodies, and feelings are chained together to create digital objects and networks, are part of an invisible digital class. We are told we live in a networked world—told we now inhabit a brave new borderless world—told that we are now a "We." But this *we* is persistently a homogeneous mass, the socially and geographically undifferentiated and depoliticized "user" of digital technology. Who is excluded from this *we*? Who are made the objects rather than the subjects of this empowered abstraction of network cultures? What of those experiences not represented by the image of digital futures projected by Silicon Valley? What about those who constitute the undercommons of the network, those who experience digital connectivity as a chain? Where are the female, nonwhite, queer bodies in this supply chain?

How We Work

Let us make our investments clear. We are Precarity Lab, a group of intergenerational, transnational feminist and people and women of color scholars who meet regularly in a room that houses the new Humanities Collaboratory in the University of Michigan's Hatcher Graduate Library. We meet once a month to envision a new approach to digital studies. We call ourselves a lab because we talk, write, and eat together while working toward writing a multiauthored monograph on digital precarity. We are a collective of "area" specialists in digital cultures: as ethnographers, critical textual scholars, and cultural historians and producers, Precarity Lab engages with this different moment of digital precarity by drawing on methods from ethnography to computing to visual analysis to oral history and archival research.[2]

Our work traces the uneven distribution of digital life by mapping out digital inequalities as well as practices of resistance to dominant val-

ues and understandings of digital technology over historical periods and differing scales. We make visible the life cycle of digital devices and infrastructures, their transnational travels and the governance of life through algorithms and biotechnologies. We have skin in the game not just as academic allies but also as accomplices redistributing institutional resources and investing time with communities that pass as levers of critique and faceless, nameless generalizations.

While tropes of contemporary digital cultures, such as the "cloud" or the "user," produce a seamless and borderless sense of cosmopolitanism, they do so by obfuscating the wires, machines, corporations, and people who run it. In fact, digital infrastructures are complex technological, aesthetic, and rhetorical formulations, and they require collaborative and interdisciplinary expertise to excavate their material bases. Our collaboration thinks through how users and producers from what Anita Say Chan has called "networking peripheries" engage with poor digital infrastructures, capitalistic exploitation, and the commodification of their bodies and the data they produce.[3] We focus on emergent forms of precarity and power both internal and external to the Global North through algorithmic means that structure the lives of women, migrants, people living in the Global South. Borrowed from the European and Latin American Left, the language of precarity describes the new norms of risk and uncertainty generated by creative and digital economies unregulated by labor laws. We invoke the term to refer to those populations disproportionately affected by the forms of inequality and insecurity digital technologies have generated.

The Precarity Lab members' works span sites such as the US-Mexico border, Indonesia, China, Palestine, and the Navajo nation. Our work examines what Rita Raley calls the "emancipatory potential of sociality and cooperation" in network control societies that can be used to disrupt systems of power.[4] We insist on asking, How can the materiality of digital networks produce and respond to precarity? How have digital networks governed digital bodies, altered sovereign protections over subjects, and perpetuated uneven access to digital resources? And how have aesthetic objects and practices disrupted and questioned the "black box" of digital technology?

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The archive of contemporary precarity is soldered on circuit boards and embedded in scripts of programming language. It is found in the thousands of gestures—of swipes and scrolls, of likes and hearts—that have been folded into capital's extraction of value. The question then becomes how to retrieve such an archive, how to reclaim from its suffocating grip a space for fugitivity, love, and desire.

New studies of digital cultures arise in increasingly rapid cycles. Platform studies, media archaeology, infrastructure studies, and more recently supply chain studies are aimed at unpacking the consequences of computerized ways of living, making, producing.[5] These studies show in important ways how "the digital" is a site of labor exploitation and capital accumulation. Their work intervened in continuous narratives of techno-optimism and inspired various forms of tech activism. What is missing, however, is the deep engagement with the yearnings, lived realities, and aspirations that intertwine in contradictory and ambivalent ways various positionalities. Binaries of subaltern versus capitalist actors do not account for structural forms of exploitation, camouflaged by narratives of techno-optimism and future making. When scholarship of digital cultures is itself part of an academic supply chain, we need alternative methodologies to understand our precarious digital lives. We need new terms, new ways of thinking, and new objects of study that depart from thin and well-worn tropes about crowds, platforms, and networks.

For example, there is a tone of urgency implicit in how Marxist media analyses examine contemporary platform economies' exploitative tendencies. There is a tendency to render historical moments as seemingly inevitable forces driven by the monstrosity of capital's reach and relentless move. For these Marxist uptakes on the crisis of digital platforms, all of labor, life, and nature are subsumed by the logics of capital. This return to Marx is not limited to scholarly work. Tech magazines like *Wired* and even financial magazines like *Forbes* and the *Economist* have run stories that critique the consequences of precarity and neoliberal capitalism more broadly. The irony is that the allure of a renewed capitalist critique brings together people who had previously been endorsing digital technologies and social media for their emancipatory and democratic potential. What lives on in this renewed capitalist critique, then, is an attachment to these technopolitical ideals of emancipation and empowerment. An attachment to powerful critiques now allows white men to absolve themselves of complicity in the reproduction of precarity. This type of dominant critique cannot rid itself from the totalizing gestures that flattened sites, peoples, and contexts. The proliferation of modes of digital labor affects people differently across the globe.

As feminists who theorize how the digital structures, narrates, and shapes economics, politics, and life, we are skeptics of such totalizing orientations. To think about precarity means to break with crisis thinking. It means to notice crisis as a condition of life.[6] We also object to the phrase *invisible labor*. This labor has always been visible in the same way that the people who do this labor have been: in plain sight but undervalued. If we pay attention to "invisible labor," we see not a network of actors or artifacts but, rather, a chain: a supply chain, a blockchain, a chain of

female and nonwhite labor, all linked to one another across time and space by bonds of capital, material object production, and social reproduction. Theories of network cultures celebrate the new connectivity afforded by digital technology and attempt to erase the chains it puts in place. These chains pull some people up, yet weigh down so many others.

A feminist sensibility steps sideways to notice precarity differently. Precarity has always already been mundane reality—and life itself—for those whose race, gender, and sexuality chained them to acts of violence and exploitation. Precarious life feeds off the vulnerable, breaks their bodies, and renders them surplus. To notice precarity differently means to be in radical complicity. Precarity is "life in chains." Life in chains rejects ideals of an outside, of utopia to be rescued from the machines of capitalist alienation. Chained up is more than complicity; it means noticing the wounds inflicted by false promises of idealized counterculture, technological progress, and digital intervention.

We also insist on the gaps, holes, and threads of supply-chain capitalism. They show us how else to live on. These fissions and gaps are held together by the labor of female and nonwhite workers. We search for these frictions and tensions of global supply chains, which once scaled are also sites of resistance from within—not any kind of resistance but resistance that stands inside and alongside supply-chain capitalism. It critiques capitalism from within and between, in the shadows and of infrastructures and digital technologies that enable circulation and accumulation.

A feminist methodology demands an analysis of difference, diversity, and heterogeneity. Supply chains are heterogeneous because differences must be nested for projects to scale.[7] The making of supply chains homogenizes heterogeneity from within. But it is precisely this nestedness where a multitude of hopes, dreams, and aspirations are found dormant in chains, waiting to be activated. A digital worker is not necessarily alienated from the commodity she doesn't own; she finds an unrequited desire and love for the digital work she performs. A feminist methodology shows how being chained is not determined by digital rules and technologies that enable oppression. It is not a result of the material infrastructures and technologies that enable communication, connectivity, and networks.

It is not enough to submit digital platforms to the scrutiny of discourse analysis—to scour their representational plays. We should not be dazzled by the flows of a seemingly new interface. We must endeavor to examine the ways digital platforms are simultaneously producing and the products of their time and place. Situating platforms in historically and spatially constructed contexts allows us, even if fleetingly, to interrogate their enframing across time. This is not a time that is neatly linear or progressive but one that takes place through boots and crashes, through lethargy and the latent. This approach sutures together what might seem

to be bracketed, disconnected phenomena. The history of digital precarity unfolds in/over time; it is the structuring of conditions of possibility and of another time.

Scenes of Precarity

Fairchild Semiconductor Plant
(Shiprock Navajo Reservation, New Mexico, 1965–1975)

Lily and Bill Smiley are a Navajo couple who live on the Shiprock reservation in New Mexico. Lisa interviewed them in 2016 during a visit to gather information about the Fairchild Semiconductor plant that operated there from 1965 to 1975. This state-of-the-art plant was the second-largest employer of American Indians (the US government employed the most) during its ten-year operation. The Fairchild factory, one of the largest buildings in Shiprock, housed some of the most expensive and sophisticated machinery for building transistors and other electronic components and still stands, abandoned and empty. It is a reminder of the darker side of precarity. For until the American Indian movement protest resulted in the plant shutting permanently in 1975, it was experienced by its workers as the most secure source of employment and money accessible to them. When the plant laid off its workers with only a few days' notice they were surprised and unhappy to lose their jobs so suddenly. Though the movement was blamed for the plant's closing, this ten-year span of digital work exemplified the precarity of digital labor before *precarity* became a term to describe the uncertain and stressful conditions of work for digital workers. Indigenous people with dreams of participating in digital futurity were the preconditions for cheap digital labor.

Lily and Bill were part of a supply chain that fed the military industrial complex that fed the budding digital industries. They were "let go" along with all other workers when Fairchild closed the plant. Bill found another job working at a power plant, but like other women Lisa interviewed, Lily didn't. This seemingly secure work that turned out to be so precarious offered Navajo women and some men jobs as bonders and quality control workers. These were the only wage-labor jobs that some of the women, who were the vast majority of the roughly one-thousand-person workforce, had ever had, or would ever have. When the supply chain that needed those components moved to Asia, these workers were dropped from it.

Shiprock is located on multiple borderlands. It is near the Four Points region where Utah, Arizona, Wyoming, and New Mexico meet, and it is also on the border between the United States and the Navajo nation. Producing these labor-intensive electronic components on Navajo land allowed the plant to legally pay less than US minimum wage, and it

permitted them to satisfy the legal requirement that weapons for the US military must be made domestically. The plant produced exclusively "high rel," or high reliability components, used for military applications. Fairchild had assembly plants in Singapore and Korea that were even cheaper than the Shiprock plant, and all of their assembly work would eventually migrate there, as it did for almost all device production work. The plant, which employed almost all Navajo workers, occupied land that became a temporary special economic zone within the United States, and hearing the stories of those who worked there helps connect the dots between racialized supply-chain workers who keep the industry going across Mexico, China, and the internally colonized United States.

Bill Smiley, one of the few men to work on the assembly line (most men worked as machinists, fixing the machines that women used to create and test these circuits—this gendering of electronic work continues in Asia) told me that he knew that the things he was making were part of America's technological future: he knew he was making parts for "radios and . . . ," "TV," as Lily said, and "calculators." Bill notes that he knew that they were building parts for "satellites, spaceships." When I asked how they knew what they were building, Bill told me that "they didn't tell us," but, chuckling, he said that he knew, and Lily finished his sentence: "Yeah, they told us, 'This is for a TV,' or something."

All of the workers Lisa spoke to remembered the plant with fondness and wished that their jobs had not been eliminated. Though they made less than minimum wage, as Bill explained, "Well, it's reasonable, when it was like she said, everything was low. Gas, and food and everything was low price. So they gave us the check, and then you still can have some leftovers after the next check." Inez Puggie had a one-year-old daughter when she went to work at the plant. Her mother took care of her child while she was away earning money. The plant enabled the workers to fulfill a dream of care by earning currency and becoming part of a wage-based economic system that was unavailable to them before. Having "some leftovers" to cushion the precarity of indigenous lives in economically neglected locales underwrites an investment in that dream.

Very few people know about this part of the early digital industries' indigenous supply chain. Fairchild manufactured the first cartridge-based video game system, the Channel F., and it supplied components for the Apollo mission, the "spaceships" that Bill talks about, and other consumer electronic objects. Scholars at research universities have the capacity to do this labor, the labor of cultural history, to document past precarities and their costs.

The workers that I spoke to described two kinds of dreams: first, the dream of reliable waged work to support domestic care for children enabled by wage labor. This labor seemed to be the epitome of security:

a place on the factory line, company picnics, the earning of five- and ten-year pins for employees; and second, knowing that they were constructing part of a collective national technological dream: the space program. An engineer at Fairchild told Lisa that the parts made at the plant were the "lowest level" of production—cheap Navajo labor made the conditions of possibility for "innovation."

It is easy to romanticize indigenous time. Early journalistic articles about the plant made much of the idea that Navajo workers did not know how to tell time and therefore had to learn how to be factory workers from scratch. These workers went directly from work on the land, or craft-based work, to high-tech manufacturing work, and back again when the plant closed. However, the Navajo women and men who worked in the factory marked local history by the opening and closing of this plant, the availability of work for all who were willing, followed by its sudden and permanent cessation. The dream of spaceships made other dreams of providing nurturing and care to indigenous children impossible when Asian women in factories overseas took their place as precarious workers in electronics factories.

The American Indian movement decided to occupy the factory with rifles to protest working conditions, and Fairchild left the area citing this event as a cause. However, this story reminds us that indigenous labor has always been precarious, even, or especially, when it was "high tech." The precarities that characterize our gig economy were beta-tested on Indian reservations, on the US-Mexico border, in Chinese factories. We must remember that the digital platforms that have captured so much excess profit from contemporary labor have always been the product of supply chains sustained by "Third-World women."

Their stories are overlooked, romanticized, referred to with outrage but little engagement or thick description, or made into totems of digital capitalism's evils. But what happens if we imagine these digital supply chains from a feminist imaginary, a decolonized engagement with digital precarity? Their scales differ from Silicon Valley histories that privilege white male inventors. They are less a network than a new kind of relationality unique to digital capital: the women who made the circuits created technological objects that are the grandparents of those that power the Uber driver's smartphone. This chain spans time and space.

UberPASSPORT: An Experiment in Making Transboundary Workers

The US-Mexico border region is chained to the histories of Navajo women. Fairchild capitalized on the tenuous and asymmetrical borders separating the US nation from the Navajo sovereign nation, turning indigenous lands into an experimental zone of extraction for the military-industrial

complex. Throughout the twentieth century, the US-Mexico borderlands have also played their part as experimental zones in the development of electronic and digital technology. It was there that Ryan Aeronautical designed and tested target drones in the 1940s and that the Border Patrol deployed intrusion detection systems, previously designed for the Vietnam War, to control unauthorized migration from Mexico in the 1970s.[8] The region also saw the emergence, since the 1960s, of special manufacturing zones that treated border cities as machine assemblages of capital. In short, the borderlands constitute the cutting edge of technological imagination. They are where empire attempts to make and undo the boundaries of political possibility.

One recent example comes through Uber's venture into the business of transporting passengers across international borders. On March 16, 2016, the rideshare company announced its new service, UberPASSPORT, which would allow Uber customers to arrange trips from San Diego to Tijuana. "Whether it's a business trip or a beach getaway, Uber can help make your journey into Mexico safe and hassle-free."[9] UberPASSPORT portrayed border crossing as a smooth experience.[10] Business or pleasure was just one button away. Uber framed the launch of this service by emphasizing how connectivity was not just constitutive of borderlands culture and its economy but part and parcel of the infrastructure of border cities such as Tijuana and San Diego. "The interconnectedness of our cities is a direct result of the great community and leadership that we have in San Diego and in this region." San Diego, historically bounded to the US expansionist project on the Pacific frontier and in the Americas, was positioned as a leading center for connectivity. Not just a port city, it was a connectivity port for political, informational, productivity, and capital flows moving across the southern border. More to the point, San Diego's "interconnectedness" was a resource for Uber to plug in its precarization network as it extracted value from users.

The extractive process was grounded in the way the rideshare company structured its labor regime and the populations enframed by it. Uber called drivers "driver-partners" as a way to reframe labor relations. "Driver-partners" were named as such to avoid their identification as employees. They were imagined as actors who, in the pursuit of making profits, embarked on freely and equally arranged agreements. Yet the "partnership" between Uber and its drivers was more complicated.

Surely all Uber drivers were submitted to the same labor regime, but those who had to endure it as a means to survive were predominantly people of color. Even though public demographic data on Uber's drivers in the United States are scarce, a labor analysis of a survey of 601 active driver-partners across twenty US markets showed that drivers were predominantly nonwhite (59.6 percent) and between the ages of eighteen and

forty-nine (75.5 percent).[11] During those moments of the day they were "free" from their main jobs, they used their personal cars to drive others around. In other words, these overworked drivers used their "flexi time" to supplement their income. About 80 percent of surveyed drivers who "partnered" with Uber had a full-time or part-time job when they joined the rideshare company. Uber was successful in redrawing the boundaries of time by transforming what ought to have been nonlabor time into labor time. One person's untenable life—that is, balancing multiple jobs—made another person's life smoother. Uber's platform relied on the temporal inequity between white and nonwhite populations. Time stopped and flowed as people were differently integrated into Uber's labor regime.

In addition to this expansion of labor time, Uber also transferred operational expenses onto its drivers. Car loans, driver's insurance, and car maintenance were not paid for by the "employer" but by drivers themselves. Health and retirement benefits were also the exclusive domain of "driver-partners." In exchange for access to its information infrastructure (app, market of customers), Uber charged drivers a percentage of the total fare per ride.

UberPASSPORT further complicated the process of precarization as the service exploited the privileges of US citizenship and sought to profit from the process of border crossing. Though no data have been available of who provided this service, we can speculate a few things based on known information about the San Diego–Tijuana transboundary worker population. According to Paola Avila from the San Diego Regional Chamber of Commerce, around 70,000 workers crossed the border every day.[12] Strict and cumbersome US immigration laws, higher wages paid on US territory, and lower costs of living in Tijuana, among other things, have helped produce this large transboundary worker population. Though it was not clear who would be willing to drive others across the border, it was statistically likely that this work would fall upon drivers of color. Uber did, however, have a specific rider in mind. The company claimed riders could use the service for "a business trip or a beach getaway." Riders—news reports of the service generally mentioned US citizens—would head south for their business ventures or to enjoy Tijuana's natural and tourist destinations. Avila even speculated that companies could offer the border-crossing service as an employee benefit and that, as she expressed in Uber's announcement, the border-crossing service would provide "a simple and reliable travel option" to "open more economic opportunities for our region."[13] The precarious working conditions of driver-partners became an extractive opportunity for Uber and for other members of San Diego's business community. Tijuana, in this techno-utopian dream, continued to function as an extractive site for US capital and interests. Echoing Silvia Federici, the operation complied with "the fundamental

principle . . . that capitalist development is always at the same time a process of underdevelopment."[14] UberPASSPORT sought to extract value from those who could cross the border with relative ease (US citizens) by means of intensifying exploitative conditions for driver-partners now made into transboundary workers.

UberPASSPORT perpetuated the 1990s techno-utopian dream of a borderless world by gesturing to users its capacity to seamlessly move them across national boundaries. The ride-share service would operate by obfuscating the process of border crossing. The fact that most US citizens, particularly white or white-passing ones, could cross the southern border with relative ease made it appealing for Uber to articulate their techno-utopian borderless world. The trouble was, a borderless world for whom? And on whose labor did this world rest on? Riders and drivers needed to have a valid form of state identification to use the service effectively. Uber did not manage a user's actual passport or its data. Instead, the company directed prospective users to the Mexican government's immigration service website for all appropriate information. Uber did not function as a state. It did, nevertheless, seek to transform border crossing into a market transaction between precarious driver-partners and riders. While *coyotes* (smugglers) operated illegally on the margins of society by transporting potential laborers into US territory, UberPASSPORT (the other side of the same coin?) would transport US citizens to their newly connected Mexican destinations. The company hid the process of state personal identification under layers of code that exploited US citizenship as a point of extraction.

UberPASSPORT was discontinued on September 1, 2016, a mere six months after it was announced. The company's venture into the business of international border crossing ended up being mostly a speculative exercise. While its beginning was widely communicated with coverage across different news media, the discontinuation of the border-crossing service was quietly announced. A short statement was attached to UberPASSPORT's original statement. It seemed that the dream of "interconnectedness" melted into air.

And yet, despite its failure to stay on the market, the experimental venture revealed a technopolitical orientation in Silicon Valley to organize the circulation of desire, labor, and consumption, as well as the extraction of value across international boundaries. It conscripted the already precarious labor of workers who needed to make ends meet. The app treated them as a transboundary labor force, its standing reserve, their bodies, skills, and cars transformed into an extractive assemblage. Together, they were the machines of digital precarity.

The machines of digital precarity keep churning, extracting value through continuous spatial and temporal scaling and rescaling. UberPASSPORT, and its promise to deliver smooth connectivity for US citizens, was enticing because it experimented within the gaps and borders of nation states. The intention was not only to economize the "user need" of border crossing but also, more important, to extract value from long-held aspirations for other futures, dreamed by those who have been denied interscalar belonging but granted to the cosmopolitan border-crossing traveler. The longing for a life otherwise, be that the dream of national (or other) belonging or the dream of living technological optimism, is what oils the machines of digital precarity. For this form of affective value extraction to work, the longed-for life (the life otherwise) must appear in reach, in sight—there across the border.

Placed "back in time" and labeled as always waiting and as part of an always ready-to-be-tapped "surplused population," one's dreams become abstract figures, distorted by the lived nightmares of exploitation and extraction.[15] Surplused populations placed back in time haunt contemporary critiques of capitalism.

You have probably read about Foxconn, the Taiwanese contract manufacturer. Perhaps you read about it in the *New York Times* or in a recent scholarly piece on digital labor. You remember reading about a series of Foxconn worker suicides around 2010. The worker suicides happened in a facility in Shenzhen, China. You thought that Foxconn was a Chinese company. At that time, you didn't know that Apple products were produced in Shenzhen. You didn't know where exactly Shenzhen is. You thought that Foxconn produced in Shenzhen because of China's cheap labor.

Writing about Foxconn in China is perhaps just as in vogue today as it is to critique the capitalist exploitations of Silicon Valley. As an image, it has become the go-to figure of Western media and recent scholarship alike to explain how Fordist regimes of labor exploitation continue on in an age declared as postindustrial. In digital labor scholarship it is often invoked as "the other" and somehow a "less modern" site of surplus value accumulation alongside "newer" platform capitalism as embodied in Uber, the crowdsourcing marketplace Amazon Mechanical Turk, and what Tiziana Terranova characterizes as social media's exploitation of free labor (with Facebook as the dominant figure). Stories of Foxconn workers' suicides and the speedup of the assembly line are taken to speak for conditions of digital labor in Asia more broadly. Instead of regional, historical, political specificity and historical contingency, the obsession with Foxconn reaffirms old (Western-centric) universals.

China, here, is once again portrayed as stuck in the past—it holds a place in linear time, speculated as catching up with but nevertheless behind the West. China comes to stand for old capitalism, capitalism pre-platformification. China here is not a place but mere image. It is an image that serves a particular argument: exploitation in the age of digital labor and platformification is contingent on older regimes of power and exploitation in the factory. Immaterial labor, free labor, platform capitalism, so the story goes, belong to the West (or the global North). In New York City, taxi drivers commit suicide. In Shenzhen, factory workers commit suicide. While Silicon Valley has venture labor, Shanghai only has yearnings—yearnings to be seen as "created in China."[16]

Such classification systems of labor and labor exploitation mask how processes of economization work through a multitude of registrars. They mask how Foxconn workers are called upon to desire the kind of precarious work embodied in the creative and self-entrepreneurializing worker that companies like Uber construct as their ideal "user." They also mask how yearnings for modern belonging render such self-upgrade into creative and entrepreneurial precarity desirable.[17]

What if we began by noticing labor differently?[18] What if we noticed long-held yearnings to live technological promise and, by extension, to live happiness as integral to contemporary exploitation and digital precarity?

In 2014, the Taiwanese contract manufacturer Foxconn transformed one of its former Nokia factories at the outskirts of Beijing into a hardware incubator called Innoconn. As an incubator, Innoconn invests in the speculative potential of startups scaling into "the next big thing" in hardware. Specifically, Innoconn was capitalizing on the promise that an engagement with China would "empower" geeks to not only tinker with and at scale, that is, to tinker with electronics and tools like the open-source hardware platform Arduino, but also tinker with and in factories. Since around 2010, a growing number of open-source hardware and maker advocates, especially from Europe and the United States, began to travel to China, fueled by the idea to scale the promise of the maker movement, which is to say, to regain control amidst rising precarity in the tech and creative industries, by moving from hacking devices to hacking supply chains, from hacking things to hacking markets. When Innoconn opened, Jack Lin, its director, explained that to deliver on this promise required partners from industries that brought the experience of working with and at scale. Foxconn was such a partner, Lin proposed, to not only scale the promise of making but also to lead more recent demands to upgrade China's manufacturing industry via automation, smart sensors, AI, and entrepreneurial retraining.

Foxconn's experiment to lure maker and open-source hardware advocates into its factories did not gain the popularity its management

had hoped for. Many of the open-source hardware advocates who had taken an interest in China preferred to tinker with and at scale in the city of Shenzhen, in southern China. What stuck, however, was the idea that Foxconn had to remake itself to survive China's most recent economic transformation. The company began offering retraining programs for its line workers. Maker spaces were set up in a series of their facilities, with the aim to induce desires among its workers for self-upgrade to adopt an "entrepreneurial mindset" and "innovation thinking." To be a factory worker would now mean not only to work at speed at the assembly line but also to dream about scale, future making, and finance capital.

Conclusion

Apps, mobile and wearable devices, programmers, technicians, and other associated entities are the media infrastructures of contemporary imperial formations. Together they are traversed by processes that oscillate between local, regional, and global stages. Media infrastructures both undergird and undo the machinations of a political rationality anchored, as Ann Laura Stoler has shown, in the fabrication of exceptions.[19] Digital platforms actualize the production of territorial ambiguity, of ambiguous legal categories of belonging and exclusion, and of geographic and demographic zones of suspended rights. User subjects and data objects are treated as programmable matter, which is to say extractable matter.

While sharing common mechanisms and dynamics, this operation varies from place to place as it impacts populations unequally. A common refrain, for example, in critical responses to digital technology and surveillance has been to imagine them as equally affecting all users. And yet, this could not be further from the truth. This much has been made plain by the cases of Rohingya people in Myanmar, of Muslims in Sri Lanka, of data harvesting by Cambridge Analytica, and of the targeting of journalists and human rights activists in Mexico. We have proposed, then, an examination of precarity attuned to the programmability of power in localized contexts, reflective of their temporalities, and gesturing to their seemingly unbounded zones of encounter.

Precarity Lab traces the unfolding of digital precarity across a network of geographical sites and critical practices, from the placement of Palestinian internet cables to the manufacture of electronics by Navajo women, from the production and deployment of drones on the US-Mexico border to the technocultural productions of Chinese makers and feminist artists. This heterogeneity anchors the institutional investment by Precarity Lab members. Adapting Tricia Wang's notion of "thick data," we find great pleasure and promise in working together to tell a multisited story about where and how the digital is made and who profits from it.

Our approach insists on the central place of interdisciplinary critique in large-scale and multisited research too often ceded to the big sciences and other quantitative fields. Synthesizing critical reading and theorizing, digital production and ethnographic methods, our approach is informed by a growing body of work in critical computing and digital studies that has challenged a tendency to overinvest in technological solutions, such as big data and digital mapping, to critical problems.[20] Wang argues that where "Big Data reveals insights with a particular range of data points, while Thick Data reveals the social context of and connections between data points."[21] Against the doxa that complex systems such as transnational financial networks, digital infrastructures, and global commodity flows require more computational analysis, we insist on the urgent role of institutionally supported, "open-source" collaborative critical research.[22]

Feminist and ethnic studies approaches have a central role to play in critical digital scholarship. This approach complements critical reading with critical computing; it advocates collaborative research and writing, and it proposes a multisited research method rooted in self-reflexive and deep engagements with specific locales. In this way, we draw inspiration from Lisa Lowe's *Intimacies of Four Continents* that spans Europe, Africa, Asia, and the Americas to link colonialism to the rise of Western liberalism. Lowe's project models the kind of self-reflexive, multisited deep engagement we aspire to perform in our own reading of new media as situated in larger systems of power before new media ceases to be new. We also draw on projects like Anna Lowenhaupt Tsing's *Mushroom at the End of the World*, which helps us to know the life of a gift commodity through its travel and transits from state to state, worker to worker.

What if we took such readings of supply chains and used them to study their own means of transit: the digital? And what if we took the usual mode of doing this—reading Silicon Valley, and so on—and used it to produce a feminist decolonized digital studies? To answer, we dive into the thick realities of inequality faced by women and people of color as links in a digital chain of production. We thicken the flat network of clicks and searches to show the systemic inequalities that determine how people, finance, and things move—and not move—across borders. Our example offers a new topology of material culture, following the money and bodies that traverse the world. Any critique of the digital must recognize how precarity is differentially distributed across gender, race, and class. When societal vulnerabilities are articulated only through the tropes of the event, the shock, the bubble, the crisis, we lose any sense of the linkages between labor across national and geographic boundaries that skew so female and invisible. By retracing how one body is chained to another in precarity, it shows the thickness of desire and potential inside these digital bonds.

Notes

1. Tsing, *Mushroom at the End of the World*.

2. We are inspired by projects like FemTechNet, #TransformDH, Deep Lab, Matsutake Worlds, the Center for Critical Race and Digital Studies, and a special issue of *The Black Scholar* (Johnson and Neal, "Black Code").

3. Chan, *Networking Peripheries*.

4. Raley, *Tactical Media*, 10.

5. Andrejevic, "Surveillance in the Digital Enclosure"; Fuchs, "Political Economy of Privacy on Facebook"; Montfort and Bogost, *Racing the Beam*; Scholz, *Digital Labor*; Srnicek, *Platform Capitalism*.

6. Tsing, "What Is Emerging?"; Roitman, *Anti-crisis*.

7. Tsing, *Friction;* Tsing, *Mushroom at the End of the World*.

8. Chaar-López, "Sensing Intruders."

9. Uber Technologies Inc., "Connecting Sister Cities with UberPASSPORT."

10. It was not clear if UberPASSPORT was exclusively used by US citizens, but the company's targeting of US businesses meant that riders were implicitly imagined as predominantly US citizens.

11. Hall and Krueger, *Analysis*.

12. Wagner, "Uber Announces Cross-Border Rides."

13. Uber Technologies Inc., "Connecting Sister Cities with UberPASSPORT."

14. Federici, "Precarious Labor."

15. Tadiar, "Life-Times of Disposability," 48.

16. Neff, *Venture Labor*.

17. Lindtner, *Prototype Nation*.

18. Tsing, *Mushroom at the End of the World*.

19. Stoler, "On Degrees of Imperial Sovereignty"; Stoler, *Duress*.

20. boyd and Crawford, "Critical Questions for Big Data"; Crawford, "Hidden Biases in Big Data"; Wang, "Big Data Needs Thick Data."

21. Wang, "Big Data Needs Thick Data."

22. For specific examples of open-source research, see FemTechNet's Center for Solutions to Online Violence, *First Monday*, and *Ada: A Journal of Gender, New Media, and Technology*.

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