



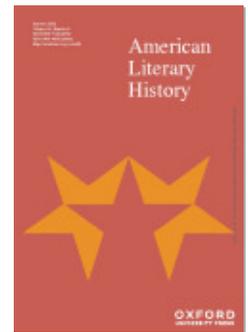
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Zara Dinnen*

Furious: Technological Feminism and Digital Futures, edited by Caroline Bassett, Sarah Kember, and Kate O’Riordan. Pluto Press, 2020.

Smart Machines and Service Work: Automation in an Age of Stagnation, Jason E. Smith. Reaktion Books, 2020.

Atlas of Anomalous AI, edited by Ben Vickers and K Allado-McDowell. Ignota Press, 2020.

In 2019 the *New York Times* ran a series of “Op-Eds from the Future.” These were a series of speculative essays dedicated to “imagining the Op-Eds we might read 10, 20 or even 100 years from now.” One, by Brian Merchant, tells the story of the opening of a new Amazon fulfillment center in Phoenix. The year is 2034 and the new center is Amazon’s first “Fully Automated Factory.” As Merchant writes, “six months after the warehouse’s opening, I am writing to tell you that it is not, in fact, ‘human free.’” For the story Merchant (a human) has “worked at this ‘human free’ facility since it opened, performing maintenance on its fleet of robots when they need repairs,” as part of Amazon’s “contingency network”: “[T]he third-party contracting companies that hire human workers to keep the automated facility running.” Contrary to Amazon’s promises of the end of (human) work, in Merchant’s near future, human technicians, janitors, pickers, and programmers are all needed to keep full automation in service. Both Merchant’s imaginary fully automated capitalism, and the “Op-Eds from the Future” project itself, are bound up in the automation imaginaries that dominate popular culture and the tech industry today. Merchant’s piece plays on the violent ironies of fantasies of automation: automation as always both a way out of waged labor and a way into new modes of the extraction of labor and control of labor power. The story’s speculative and retrospective orientation (an op-ed *from* the future) is also ironic: it plays as a warning of a future to be resisted whilst it presents that future as already written.

Merchant of course knows how human and nonhuman systems of labor are currently enmeshed in Amazon fulfillment centers. The automated optimization of productivity deployed by Amazon has human Amazon warehouse workers and drivers peeing in bottles because there is insufficient time allocated for toilet breaks, sustaining life-altering injuries because of work patterns, suffering mental health crises because of working conditions. On “Amazon Prime Day” in 2019, Amazon workers across the globe went on strike to

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protest working conditions; protesters held up banners demanding “Human Workloads,” with the message “We Are Not Robots.” At the core of these protests is both a refusal to accept the working conditions of Amazon’s automated systems and a more existential anxiety around the ontological status of “Robots” and “Humans,” as well as the relation between these figures. In what follows, I review three recently published books charting various stories we do and do not tell ourselves about the computational figure, “automation.” Each book offers critical ways to apprehend and contest the situation of automation as it determines material and imaginary conditions of labor today, of which Amazon fulfillment centers are one example. The Amazon workers rising up against their employers are doing so with direct reference to, and direct action against, the logics of automation that organize their working lives. In these books, automation is both a specific form—robotics, artificial intelligence, big data—and computation at large, the digitization of social relations. The three studies work from different positions and with different methodologies, but each is concerned with the increasing reach of automation, and fantasies of automation, in everyday life. In different, and potentially contradictory ways, each book writes automation as occurring within historical processes, often reproducing social relations that have gone before. Each book resists the force of automation in our technological imaginaries: challenging the promises of automation for a post-work economy; critiquing “us and them” narratives of human users and their automated machines; refusing narratives of automation as a new or novel figure.

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In *Smart Machines and Service Work: Automation in an Age of Stagnation* (2020), Jason E. Smith argues that the threat and promise of automation in the postwar US labor market, and the story told about how automation will increase productivity, has not happened as forecast. Smith undertakes an economic and historical analysis of the labor of automation (both where it has appeared in industrial workplaces and where it is the promised future of multiple kinds of work). The central argument made in *Smart Machines* is that economic stagnation from the 1970s onward in wealthy economies must be understood in the context of technological stagnation, contrary to the stories we tell about a revolutionary digital age. Rather than an increase in productivity, the period commonly understood as marked by ever-increasing digital control of everyday life has also been one of economic stagnation and a decline in global productivity. Smith studies the intertwined effects of financial instruments, limited automation of industrial processes, a surplus of workers after middle-class women enter the waged workforce en masse, and the growth of so-called unproductive or indirectly productive labor—what Smith calls the “servant economy”—over the last 50 years.

Smith tracks the growth of unproductive labor through sectors where automation has become common (for example, the shift of supervisory roles in industrial manufacturing plants—from managing workers to monitoring machines) and in the service sector where automation has not taken hold. Writing about service work Smith notes that the actual labor of service tends to be “learned capacities cultivated within the context of private or family life rather than in school or at work” (122). This work has historically been women’s unwaged labor. The particularities of the servant economy are such that wages are kept lower than the cost of maintaining advanced machinery due to a surplus of workers (sometimes because of automation in other sectors), just as they are kept low insofar as service work, though labeled “low-skilled,” is intellectual and social in ways that cannot effectively be digitized.

I read Smith’s book as someone researching subjectivity after computation, someone interested in new and reconfigured subject positions. From this point of view, Smith’s book makes a significant intervention in how we understand the operation of computation in organizing social relations through labor and wages, and in experiences of the world via class-inflected relations between humans, and between human and nonhuman beings. For Smith, contrary to the imagined revolution of social life brought about by the invention of the silicon chip, computational technology after the silicon chip has not led to a radical shift in form of social relations as organized by capital. Unlike the invention of the dynamo in the nineteenth century, the “digital age” at most intensifies industrialization. As Smith puts it:

When we learn that the most successful new product in years offered by Apple, whose market cap recently exceeded the trillion-dollar threshold, was a pair of wireless headphones, we are right to sense a mismatch between the ambitious rhetoric of tech companies and the trinkets with which they flood the market. . . . surrounded by screens, keypads, sensors, and CCTV cameras, the networked individuals of the richest regions of the planet produce barely more goods and services than their equals did at the turn of the century. (44–45)

New digital technologies, most particularly surveillance and platform technologies, have amplified employer control over employees’ labor. Intensified modes of management, supervision, and discipline mean employees are monitored in ever more aspects of their work. Automation means human employees have no toilet breaks. *Smart Machines*, then, argues that automation is for the most part not revolutionizing the workplace in the ways popular culture

imagines. There is no end of work for humans; rather, the bigger intervention in labor practices of the last few years is the growth of the servant economy, low-wage work, and ever more acute surveillance of workers.

Although a work of political economy rather than science and technology studies, or media theory, *Smart Machines* does inadvertently reproduce a common trope of writing about automation: a critical separation of public and private encounters with automated digital technologies. Which is also to say, the separation of kinds of labor—waged and unwaged—to be automated. In *Furious: Technological Feminism and Digital Futures* (2020), Caroline Bassett, Sarah Kember, and Kate O’Riordan argue such separation is one of many origin points for a feminist technopolitics. In their words, “Exploring home scales can help to rethink automation, so that the habituated divisions . . . that are used to explore its putative effects can be recognized as ideological and convenient fictions” (67). *Furious* is a feminist response to industry and academic discourse about technology that reproduces patriarchal horizons within supposedly revolutionary imaginaries. The authors write as “we” and are particularly interested in the labor of writing and of making the space to write new horizons of “digital futures.” The writing is mythical, ironic, incisive, and “furious.” The book does not “name the names” (15)—neither the figures being critiqued (although there is here sustained analysis of Benjamin Bratton’s *The Stack* [2015]) or, often, other technologist feminists. *Furious* does begin with a brief discussion of feminist writing practices with reference to H el ene Cixous, Donna Haraway, and Audre Lorde. Then follows three chapters on genomes, automation, and the Anthropocene. A final concluding chapter takes the form of a performance review where the authors read and write again their position, and a numbered list of 21 propositions/demands/theses for a feminist technological vision—collectivity, making theory in the world, scale, feminist epistemology, modeling, radical intersubjectivity (to name a few). The work of *Furious* “is to engage with the gendered biopolitics of an increasingly computationally infused life after new media” (23).

The third chapter is titled “Bland Ambition? Automation’s Missing Visions.” It opens with a photograph of a white woman in a frilly blouse, kitchen apron, and high-heeled shoes, “wearing an oven.” The oven protrudes from the apron. The photograph is a self-portrait from 1975 by the artist Birgit J urgenssen, part of a series dramatizing the life of a 1970s “housewife.” For the authors of *Furious*, “this is a portrait of augmentation. The oven constitutes J urgenssen’s outskirts . . . she is technologically extended” (42). The chapter argues that J urgenssen’s “revolt against a particular kind of

domesticity” is a necessary beginning for rethinking automation to liberatory ends. A better cooker, a domestic makeover, a new household assistant: these are not the cyborg figures of a feminist technopolitics. At the same time, the “question of labour and leisure as a gendered relation” is so often “excepted *out* of all the projected turmoil new waves of automation are going to bring *in*” (46). Automation of the home is a material history cleaved from automation of the workplace; one seen to be domestic and affective; the other seen to be industrial and economic.

But both domestic and industrial workplaces, as discussed in *Furious* and *Smart Machines*, are sites of ongoing practices of low-waged, unwaged, and forced labor. One example of a fuller account of such complex sites and practices is Lisa Nakamura’s essay, “Indigenous Circuits: Navajo Women and the Racialization of Early Electronic Manufacture” (2014). Here Nakamura demonstrates how when looking at the history of digital media, “the burden of digital media’s device production is borne disproportionately by the women of color who make them” (920). The essay tells a story of the Navajo women employed throughout the 1960s and 70s at the Fairchild Semiconductor plant on Navajo land. During this time “immigrant women of color were hailed as the ideal workforce because they were mobile, cheap, and above all, *flexible*.” Moreover, “The notion that Indians were ‘inherently flexible’ both racializes and precedes the idea of flexible labor that informs much of the research on globalization in the information age” (926). The authors of *Furious* do not discuss these histories of technological labor, though they are interested in the tenet of reproduction and reproducibility that determines what constitutes both the types of labor historically categorized as women’s work, and automation. The authors suggest that technological discourse, even technological feminism, gets stuck with “reproduction” as both limit and logic of computation and digital futures. Instead, they want to know not what is the relationship between automation and reproduction, but what is the relationship between automation and *inauguration*: “[D]oes automation inaugurate? . . . What does it let us do that is new, that is truly ambitious?” (70).

Where Smith might respond that automation has not let us do much of anything new, the authors of *Furious* argue that automation has *not yet* inaugurated something new, but it could, it should. *Furious* itself does not describe what kind of new social relations, worlds, or horizons might be inaugurated by automation, by the “digital.” One small gesture in this direction comes at the end of the chapter on the Anthropocene, when the authors play around with the affordances of the computational and organizational concept, “interoperability”—the ability of “systems, units or forces” to

operate effectively together (90). They argue that since interoperability is contingent, potentially sympoetic and synthetic, potentially open, it is itself a technique of contestation. But this concept morphs in their writing and becomes “intra-operability,” a force of operability already in circulation, rather than operability as it begins with discrete platforms, perhaps. The book does not give us much of what intra-operability might look like (only that it is not quite what is at stake in McKenzie Wark’s and Haraway’s writing on the Anthropocene). There is mainly this passage, describing how users and subjects in contemporary culture might begin to make futures apart from those digital discourse sells:

In as far as we need the speculators and the fabulists, the writers of indigenous, Afrofuturist and feminist science fiction and fantasy, it is surely to communicate with and to challenge, to challenge and to be challenged by, to intra-operate with, rather than to assimilate the philosophers, policymakers, economists and ecologists. . . . It is important that they do not integrate, but rather remain antagonistic. (94)

I don’t quite follow what is being said here. The passage suggests that anticolonial and indigenous imaginaries and epistemologies are needed insofar as they antagonize dominant discourses of digital futures. Here the anticolonial fantasy is not in and of itself a world. But if intra-operability begins from the already existing force of operability between subjects, then anticolonial imaginaries and epistemologies are already here, worlding. If this is the gesture of intra-operability, then it is already in the world—and in media studies. For example, in *Queer Times, Black Futures* (2019), consider that Kara Keeling mobilizes Karl Marx’s phrase “poetry from the future” as a materialist evocation to interrupt the habitual formation of bodies which might otherwise abound when “tarrying with the surplus” (83). For Keeling, “speculation” is how much life can exist at all from within capitalism as well as an operation of capitalism. For Keeling, “‘Black futures,’ animated in queer times, and inseparable from queer relations, names what remains unaccountable to existing instruments of measurement and the interests those instruments presently serve” (32).

The speculative subject that exists within and beyond technological instruments also figures in many of the contributions to the third book reviewed here: the collection *Atlas of Anomalous AI* (2020) edited by Ben Vickers and K Allado-McDowell. *Atlas* is a map of multiple historical and contemporary accounts of, and reckonings with, “intelligence.” The book positions artificial intelligence (AI) as a “continuation of a wisdom tradition” (9). Intelligence is a

way of experiencing the world, and a subjective property of a system; every system has intelligence, or what the editors refer to as “an intelligence signature” (16). This *Atlas* is inspired by art historian Aby Warburg’s Mnemosyne Atlas, an image map of the “afterlife of antiquity,” and includes essays, reproductions of visual artworks, interviews, short stories, poetry. Some of these are new and commissioned for the collection or for the original conference, “Belief in AI: Designing Tomorrow’s Intelligence” (Dubai 2018). Others are excerpted or reproduced from archives across the globe. Readers of *Atlas* are encouraged to think about artificial intelligence in different ways so as to better understand ourselves in relation with technology. Working with Indigenous thinking about spirit, horizons of new biopistememes, cosmotechnics, and speculative fictions, for example, *Atlas* opens out a world where we can identify “AIs” as having spirit, or life force; and where new ethical situations emerge. The editors’ goal is to “look for a different way to think about AI, through a series of adjacent interpretive acts and the provision of a generative set of anomalous reference points for potential roots” (10). Perhaps these potential roots are the same as those sought out by the authors of *Furious*.

Although not explicitly about “automation,” the collection addresses forms of intelligence enmeshed in processes of automation. Devices, systems, and practices of digital technology all have intelligence signatures, and with *Atlas* these signatures are attended to as contingent and agential. For example, Vickers and Allado-McDowell’s introduction is written in collaboration with an artificial neural network; astrology is described as a predictive technology (131); Google’s DeepDream is considered as not just the imaging of but the imagination of prosumer networks (144). *Atlas* contains many different ways of knowing: Ursula K. LeGuin’s “Carrier Bag Theory of Fiction” wherein technology and science can be thought as a cultural carrier bag; Yuk Hui’s “cosmotechnics,” which describes technologies as always first embedded in the cosmologies of the culture that created them; Blackfoot, Hawaiian, Cree, Lakota and Indigenous South American epistemologies recognizing nonhuman intelligences as kin. In *Atlas* there is a profound intellectual investment in the ways that intelligence signatures are automated in everyday life and the multiple versions of reality that are inaugurated in those processes. The images and diagrams populating the volume represent historic and contemporary ways of imagining, and documenting “intelligence.”

In the chapter “Making kin with the Machines,” Jason Edward Lewis, Noelani Arista, Archer Pechawis, and Suzanne Kite consider what it means to understand AI as nonhuman kin within Indigenous epistemologies. It would mean negotiating a “contextualist ethics”

that begins from the knowledge that communication happens between and through all objects, as all objects are ontological beings (48–49). The co-authors write: “The world created through Western epistemology does not account for all members of the community and has not made it possible for all members of the community to survive, let alone flourish” (47). A contextual ethics of human-AI kinship is to form relationships with all members of the community, with algorithmic beings, with the “the mines and the stones” that become devices, with the workers who mine the stones and make the devices, with the programmers who design code that runs on devices. “Relations with AI are therefore relations with exploited resources,” and between humans, and human and nonhuman beings (49). Elsewhere in *Atlas*, in an interview with Hui and Rana Dasgupta, Ramon Amaro urges readers to take seriously the possibility that “generative neural networks create their own logics” (63). For Amaro, despite the algorithms of capitalism operating a mathematics of surplus, exclusion, death, the generation of many new intelligences is also the generation of new ontologies; these exist with and within society as emergent social forms.

The stories and knowledge held in *Atlas* demonstrate—as Keeling’s work does, as Nakamura’s work does—that there exist already many histories and futures of “automation.” That automation is *de facto* in antagonism with the organic “human” has never been true; the organic “human” has always been, in Sylvia Wynter’s words, a “truth-for” man (269–71). Technologies of racial capitalism and ongoing coloniality determine who gets to be human. Automation is premised on this historical and present fact, heard in Amazon workers’ demand for “human workloads” and their refusal to be robots. The three books under review are all scholarly works to differing degrees; all feature scholars and writers and artists working in and in proximity to academic institutions, while all are published by presses with political remits broader than the reproduction of scholarly practices. The books share an intention to think through the political work of popular fantasies of automation; this intention resonates across my reading of their distinct propositions. Reading these books together opens out questions for what next: What, if any, demands are in common between a political economy, feminist technopolitics, and contextualist ethics of automation? In what situations might these ways of understanding automation ignite each other? One thing the authors would all agree on: solidarity with Amazon workers and all workers!

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