

Conclusion

DATA PLURALISM AND A PLAYBOOK FOR DEFENDING IMPROBABLE WORLDS

IN NOVEMBER 2023, BILLIONAIRE TECH MOGUL Elon Musk, among the world's wealthiest individuals and owner of a host of data-driven, industry-disrupting companies, including Tesla, Space X, X/Twitter, and the AI company x.AI, set off a global firestorm with a short message he posted to the X/Twitter social media platform he had purchased just a year earlier. He wrote, "You have said the actual truth" and copied a post from another X/Twitter account. His repost voiced agreement with a racist, anti-immigrant, anti-Semitic conspiracy theory—the great replacement theory—that White supremacist and eugenic propaganda around "White race suicide" had invoked over a century ago in promotion of their radically anti-pluralist, monoculturalist social project. It amplified to Musk's 160 million followers an earlier post from a far-right X/Twitter account that claimed Jewish and left-wing groups sought to "replace the White race" with inferior races from South America, Africa, and Asia. Before receiving Musk's approval, that account had posted earlier that "Jewish communities have been pushing . . . dialectical hatred against Whites" through "hordes of minorities . . . flooding their country."

Musk's repost quickly went viral among neo-Nazi and White supremacist groups, with figureheads such as America First movement leader Nick Fuentes underscoring his actions' resonance with the 2017 Unite the Right Rally in Charlottesville. He stated, "[M]archers [there] said, 'Jews will not replace us!' . . . [Now] Elon Musk . . . [is] regularly talking about White genocide, anti-White hatred and the role of Jewish elites!" (Crosse 2023). Noting the impact of Musk's increasingly routine endorsements of White genocide conspiracy theories online, he added, "You open up one of the social platforms and it's so hot so fast it changes public opinion virtually overnight,

and really in our favor” (Anarchist Federation 2023). Indeed, earlier that year, Musk claimed, without providing any substantiation, that ad revenue on Twitter had decreased 60 percent due to critiques and pressure on advertisers from the Jewish nonprofit the Anti-Defamation League (ADL). Insisting he would not fall victim to this form of persecution and channeling his best attempt at White billionaire fragility, Musk accused the ADL of “trying to kill this platform by falsely accusing it & me of being anti-Semitic” (Novak 2023). He added he planned to sue the ADL for lost X/Twitter revenue (Milmo 2023).

Several months later, as corporations including Apple, Disney, Warner Bros. Discovery, Paramount Global, Comcast, GM, Sony, Verizon, and IBM announced that they would suspend advertising on X/Twitter following Musk’s amplification of White replacement conspiracy theories, Musk doubled down. Broadening his accusation of organizations working to “kill” and “blackmail” his company, he explicitly extended his anti-pluralist paranoia to the corporate sector as he spoke on stage at the *New York Times* DealBook Summit. He said, “What this advertising boycott is going to do is . . . kill the company. And the whole world will know” (*New York Times* DealBook Summit 2023). Promising to document the so-called corporate assassination of Twitter/X’s otherwise value-generating platform, he ensured his comments made global headlines as he repeated how little he assessed the comparative value of boycotting companies to be. And he alarmed audiences by not only repeating his depreciation of such companies’ actual worth but stating with indignant emphasis—and in profanity-laced terms—what he thought those companies could “go [do to] themselves.”

Musk, of course, seemed to be doing just fine on his own in single-handedly setting the social media company he had purchased only months earlier on a fast track to self-destruction. He had, within a few months of assuming ownership of Twitter/X, fired 80 percent of its employees, dissolved the company’s Trust and Safety Council and the verification system that helped authenticate accounts, and reactivated the accounts of known US White supremacists and their sympathizers, including Alex Jones, Tucker Carlson, and Donald Trump. And he had made headlines for his predatory relationship with female employees, and his creepy insistence that “civilization” will crumble if “we” (as in techno-elites) don’t have more babies (Palazzolo & Safdar 2024).

When it comes to amplifying eugenic messages in the twenty-first century for monocultural remaking—and normalizing disinformation on White

persecution and the “reasonable necessity” of segregation and even political violence against uncontained minority threats—datafication platforms, prediction systems, and the profit-seeking actors behind them have unquestionably played defining roles. And Musk, for all his frequent outbursts, has been only the tip of the iceberg. In the wake of globally expanding AI industries and investments from Silicon Valley to turn their prediction systems into complete models for social reality, techno-eugenics and the impacts of predatory data have only intensified.

Indeed, at the height of the new millennium’s so-called data revolution, eugenic-age zeal for targeted minority segregations, excisions, and even wholesale population exterminations in the name of majoritarian self-defense have returned with a global vengeance. At a time more flush with data streams and self-consciously defined by technological advancements for a new era of AI-driven revolution, how has techno-eugenics seemed to so quickly rise to define the present as predictable content on the world’s most popular data platforms and to such an extent that their visible dominance now often reads as mundane? How is it that both within and outside the West, contemporary datafication systems have become ample (even anticipated) channels for distributing radically anti-pluralist extremism? Such dynamics have spread new variations of old eugenic conspiracy theories that once again claim race replacement theory as the true reality pushing majority populations into race suicide.

It is worth asking, too, if these dynamics are not the product of the contemporary alone, what’s kept us so fixated and frozen on the “now” of datafication and prediction systems’ present harms as if they were. What actors, creative forces, and propluralistic forms of accounting have we missed around these intensifying dynamics as they have reappeared again and again across generations? What has occupied our focus instead? What would it look like to take action and cultivate new, shared practices to center alternative voices as a means of recovering data pluralism and changing the present course of prediction-based platforms? And what have we seen about contemporary AI systems and their associated harms that suggest such tactics for collective intervention and solidarity building against datafication and prediction systems are now more critical than ever?

This conclusion is an invitation to explore such tactical possibilities for what I argue for as “improbable worlds.” I underscore improbability here as not based on a politics of possibility. Indeed, this conclusion highlights that however exceptional it might seem to confront the challenge of predatory

data's expanding infrastructures in the present, we have never been alone in the fight against data harms—and the struggle against them remains vibrantly possible across a range of contexts. Improbability instead is used to refer to—and refuse—statistically determined forms of likelihood based on assessments of probable, majority-based outcomes. Such approaches are commonly used by data-driven and AI industries today to produce predictive assessments that work by projecting “probable outcomes” for the largest possible set of users. Moreover, keeping populations blind to other “improbabilities,” especially that of the still ever-present potentials for solidarity building around data pluralism, and enabling techno-eugenicists' segregationist logics to remain intact by appealing to majority populations has been a central strategy to enable predatory data's infrastructural advances. Keeping populations separated into a hierarchy of discretely valued classes and making such dividing classifications broadly legible as the dominant system, after all, has been a driving ambition of eugenic agendas across generations. Imagining that techno-eugenic extractions would contain themselves and would only impact discrete minoritized populations, then, has never been a good gamble.

In the twenty-first century, in the wake of new AI-driven prediction system expansions, in particular, there is no question that ever-broader classes are targeted for predatory data's exploits. They are not only subject to continuous monitoring, data profiling, and their extending abuses, but are also targeted for exclusion from the privileges reserved for populations classified as deserving. Whatever protections a relative separation from the “undeserving” or proximity to “meriting” classes were once projected to provide middle classes, it is evident today that, increasingly, security is ever more narrowly justified for only narrower versions of the elite. Now, that is, even general populations (women and youth, for instance, as broad classes) are routinely denied what techno-eugenicists read as the unwarranted expense of user protections online. In other cases, they are simply deemed more profitable for platform owners when such broad classes are disafforded securities. Under such conditions, predatory data's extractions, exclusions, and dispossession are no longer experiences confined to historically minoritized populations alone, but become the foundation of a new generalized logic impacting ever-larger populations and user bases.

Predatory data as an increasingly indiscriminate application to broadening populations, however, also signals new potentials for cultivating shared critical sensibilities and renewed solidarities across conventionally defined

lines of difference. Even as predatory data's infrastructures work to segment populations and amplify the segregating logics necessary to sustain techno-eugenic futures, data pluralist alternatives have never been extinguished. Yet now, as generations earlier, the question has been how to recognize and respond to such alternatives. And how do we do so against the newly intensifying conditions of techno-eugenic outcries, now oriented around the rise of AI as a singularized imperative to future making?

Building on the chapters of this volume, this conclusion maps data pluralism's resilient vibrancy in the context of new AI developments, offering a playbook for strengthening critical literacies for resisting data-driven segregations and fortifying solidarities. The same tactics likewise defend improbable worlds that, as I'll outline here, resist and exceed the operations of AI prediction systems. They underscore how to listen past the amplifying noise of predatory data to recover alternative possibilities of life in common in an age of growing techno-eugenic stratifications and AI-based experiments around prediction that collapse future possibilities into a single, hierarchically organized path.

The playbook offered here starts with an invitation to collectively diagnose and defuse techno-eugenics' segregationist future-casting as a first tactic, recognizing the narrow means by which it amplifies claims for monocultural survival by hyping the existential threat posed by everyone—from minoritized populations to civic defenders of pluralism. It then extends a critique of techno-eugenic claims to stand for life and abundance, even as it calls for ever more limited protections for diverse populations and rationalizes the expendability of users and producers in the AI economy. It closes with a reminder of how the data pluralist project, and the extensions it has cultivated across generations that were covered in this book, have worked to foster alternative sensibilities and common orientations around time, geographies, communities, and organizing epistemologies to counter eugenics' segregating logics as they have persisted across generations. Such creative work and labor are reminders that however much techno-eugenic strategies for colonizing imaginaries saturate mainstream data channels with radical imperatives for monocultural futures and majoritarian probabilities, data pluralist cultivations and investments in improbable worlds continue to multiply. The tactics outlined below channel lessons offered across generations into the contemporary; they also offer a renewal of solidarities in the face of growing, AI-driven stratifications and projections of an exclusively probabilistically driven and defined world.

TACTIC 1: DEFY DATA MONOCULTURALISM

Read against the eugenic strategies of the past century covered in earlier chapters, techno-eugenics' contemporary amplification of majoritarian delusions around the necessity of abandoning democratic ideals to secure future survival rings familiar. Alongside the viral spread of far-right disinformation campaigns on US social media channels, pitched forms of existential paranoia have resurged internationally once again among majoritarian populations, with a key distinction today being the intensified speed and scale of their viral spread. Eager champions can now be found seemingly everywhere as AI-platformized and profit-driven forms of xenophobic extremism and pro-monocultural nationalisms scale online, rapidly crossing site after site across the globe. Conservative political leaders have likewise newly found ready amplification for extremist forecasting across information channels as they mainstream online demands for the eradication of minoritized classes and propluralistic institutions. In the United States, this includes resuscitating once unheeded calls for eliminating the public education system writ large, including the Department of Education itself (Lonas 2023), and energizing campaigns to eradicate "liberal" universities (Binkley and Balingit 2024) that have, not coincidentally, been seen to foster critical public literacies around right-wing propaganda and disinformation.

Such AI-intensified developments now make what for decades remained largely marginal, dormant arguments to demolish propluralistic public institutions into routine content actively amplified on mainstream platforms and in national political campaigns. Indeed, in the months leading up to the 2024 US presidential election, former US Republican president Donald Trump was widely broadcast as he loudly championed White persecution narratives and eugenic claims of US immigrants as "vermin" who "poison the blood of our country" (Kurtzleben 2023; Layne 2023). While such eugenic arguments were just decades ago only heard among radical pockets of free market libertarians and anti-welfare policy right-wing extremists (Bauman and Read 2018), today their automated amplification across media platforms as content in presumed demand among majoritarian populations propels the agendas of White supremacist figures such as Trump into the national mainstream. As one late 2023 post from Trump on Truth Social read in reference to US immigrants, "They poison mental institutions and prisons all over the world, not just in South America. . . . [And t]hey're coming into our country from Africa, from Asia, all over the world" (Gibson 2023).

Throughout Silicon Valley's leadership corridors, too, techno-elite existential paranoia and extermination fantasies have amplified. Routinely, the AI industry's White male corporate heads—from Peter Thiel to Marc Andreessen, Sam Altman, and other enthusiasts of the AI accelerationist movement—project a crisis of Western technological stagnation (Andreessen 2023; Thiel 2023) credited to governments' overprotection of pluralism. From such perspectives, “deranged” government regulations (Andreessen 2023) and democratic policies only work to protect unfit and underperforming populations from projected technological harms. Worse yet, government efforts to check tech companies' advancements to defend underperformers jeopardize the higher-order strength of Western technology leaders and the future of the West's data and AI industries. In what accelerationists define as a “deadly race” for the future of technology and capitalism alike,¹ some have even labeled the current moment as a twenty-first century “Sputnik moment” with its pending threat of US technological demise in a globally escalating AI “arms race.”²

The absurdity of such projections, however, can and should be named as a core symptom of techno-eugenics and its efforts to colonize perceptions of reality through fear mongering. Likewise, the repeated claims around the persecution of tech geniuses and entrepreneurs made by Silicon Valley's most wealthy elites should readily indicate how deeply a profound narcissism and pathological drive for self-preservation propel White male techno-elites' claims around insecurity. While tempting to dismiss, it would be a mistake to not take seriously their effect and their design to distract from the actual vulnerabilities that have amplified for other parties all around. Being forced to focus on techno-eugenicists' survival, that is, means paying less attention to the narrowing terms for survival and support they have created for everyone else.

Defying such terms, then, entails actively refusing the “probable,” measurably majoritarian outcome as the most evolved future. It means defending data pluralism and support for the vitality of not only diverse systems of knowing and accounting for the real beyond techno-eugenic terms but recognizing the deep damage done when reality and the course of history are framed exclusively around the language of competitive survival, hierarchy, and scarcity. Such terms actively work to foreclose alternative futures, keeping publics frozen in the precarity of self-preservation instead. Rejecting techno-eugenic frames thus opens possibilities for registering the present and future on new terms altogether, rather than projecting the wholesale

rejection of technology as the only true alternative to techno-eugenics. Engaging accounts that underscore the persistent possibility of (and deep longing for) solidarity and collective vitalities around data fortifies technological alternatives that, as other data collaborations in this book explore, have never been fully captured by techno-eugenics' monoculturalist agenda.

TACTIC 2: COUNTER TECHNO-EUGENIC SELF-PRESERVATION WITH SOLIDARITY

It is no surprise that in the name of self-preservation techno-eugenic attacks on minoritized populations and on defenders of democratic norms have rapidly escalated. This has been accompanied with depictions of such populations as not so much victims of data-driven harms, but rather (in true eugenic form) the primary perpetrators and threat to the security of majority populations. By today's techno-eugenic allegations, minoritized groups' and democratic defenders' growing reports of online harms and system-wide discrimination on platforms are not merely guilty of drawing investments away from invaluable data-driven platforms and innovations. Instead, by merely reporting online abuses and evidence of bias, minority groups—techno-eugenicists fabulate—demonstrate their willingness to block technological advancement and compromise the existence of profit-making platforms altogether.

Prominent US venture capitalist Marc Andreessen thus penned and circulated a long manifesto in late 2023 to document the “lies” being told by pro-“stagnation,” “socialist enemies” of AI and its corporate developers (Andreessen 2023). By Andreessen's account, AI's “techno-capitalist” accelerationist promoters—represented by leading tech entrepreneurs such as himself—work in defense of “technology, abundance, and life” itself. As he insisted in his manifesto, “anti-merit” forces (that apparently encompass anyone who doesn't endorse accelerationism's vision for a no-holds-barred approach to technology development) threaten to devastate technological acceleration as what he called “the glory of human ambition and achievement” and the realization of the tech sector's potential (Andreessen 2023).

Opening ominously with the warning to beware of the negative messages about technology's destructive power that tell techno-entrepreneurs “to denounce our birthright—our intelligence, our control over nature, our ability to build a better world”—Andreessen's manifesto insisted that the real

truth of techno-capital's evolutionary innovation market was that it "spirals continuously upward" and "makes natural selection work for us in the realm of ideas." Stressing intelligence as the "ultimate engine of progress" now under attack by accelerationism's enemies, Andreessen closed by asserting AI as a force that can save lives. And he darkly insisted that "any deceleration of AI" through regulating Big Tech surveillance or limiting the aggressive datafication of user and producer activity "will cost lives" (Andreessen 2023).

If such shameless reality distortion and polarizing disinformation sounds familiar, it is because it has now become the day-to-day experience of the profit-driven digital content global publics of all ages are now forced to navigate on the very platforms and digital properties accelerationists own and control. Everywhere, it seems, publics have been prompted to rise to defend the existential stakes around stagnation and "wake up" to the only "truth" worth attending to, to see the war being forged against evolution and abundance by "anti-merit," propluralistic forces. This is a war, we are reminded, where nothing less than the fate of the rightful global order—defined in the image of a radically unregulated, unconstrained techno-capitalistic market and the continuity of unchallenged Western and White patriarchal dominance—lays in the balance.

The evident irony of such calls, of course, is that despite the claims of defending life and abundance, everyone and everything proves to be disposable and expendable except the Western(ized), largely White male elites at the very apex of techno-capital's own innovation markets. By AI accelerationists' monoculturalist revision of society, even traditional Fortune 500 companies and advertisers on datafication platforms like X/Twitter can be reminded of their disposability. Only the owners, funders, and leaders of the tech sector's most valuable and allegedly innovative AI properties and data platforms are truly assured or deserving of a share of the full material bounty, credit, and security that is promised in the face of the disruptive change they promote. It is this concentrated cluster of owners and self-appointed, future-oriented visionaries who see themselves as doing the heaviest lifting—and creating the largest value generation and evolutionary push—when it comes to universal datafication and the creation of prediction systems. Parties that stand in the way of such pursuits are themselves only obstacles to life and abundance. The ongoing precarity of and reduced protections for minoritized populations that we've witnessed grow while Big Tech has prioritized a singular pursuit of accelerated innovation cycles and profit-making interests readily demonstrates how broadly such racialized, exclusionary logics run.

Techno-eugenicists, however, still routinely deny charges of racism by defending their actions as driven by other, allegedly higher ideals. Making grandiose claims that they act in defense of innovation and technological advancements around datafication, and that the commercial data-driven platforms they run are built to save humanity (Brooks 2023; Isaacson 2023), they project such systems as now the culmination of technological genius that must, at whatever cost, be enabled to fully realize. By their framings, it has been innovation centers alone that have been behind datafication systems' advancement. And it is they who should rightfully be recognized as the principal protagonists in the history and the evolution of global society. Moreover, their obsessive demands for continual technological revolution have powerfully worked to drown out all other alternative paths for future worlding in the contemporary—so much so that broadcast accounts of the given centers of the data economy in the mainstream media now portray industry and innovation-seeking centers as so fundamental to the evolving digital future that now awaits the rest of the world that to refuse such a future can virtually equate to refusing the future itself.

Even when AI-based deployments have prompted growing concerns over the unprecedented pace of change and the impacts on the security of vast populations and economic sectors around the world, dominant discursive frameworks have continued to reify industry and knowledge-sector leaders' emphasis on the imperative to innovate. Public attention is turned toward a focus on the responsibility of individuals and economic players alike to prepare for an inevitable AI revolution. Quietly excised from such discussions have been questions around what alternatives varied globally distributed institutional actors, policymakers, and knowledge producers might invest in to cultivate other futures. As significant, of course, has been the absence of and silence around a parallel set of questions around not merely what opportunities for intervention there might have been in the past, but what actors and collective actions might have summoned distinct imaginaries around alternative data futures—and who benefits from continuously silencing such past records.

It is clear, then, that to reset imaginaries around other possible worlds and narrative frames will require interventions beyond that of liberal institutions, the experts they employ, and mainstream media networks. It will demand the agency and engagement of everyday actors and communities. It will require alternative ways of understanding collective being in the world based on solidarity and pluriversal intersectionality, rather than the massive

data extractions that techno-eugenicists use to justify their claims to knowledge and prediction, even as they have always failed to represent the fullness of reality or account for the vitality of improbable worlds that continue to emerge.

TACTIC 3: RESIST EXPENDABILITY AND THE PROBABLE FUTURES OF AI

Whatever AI systems' evident failures in prediction and application, however, there is no question that in the coming decades they will continue to apply the designation of "undeserving" to ever-broader populations. Already we have witnessed the kind of unapologetic hostility that once primarily targeted minoritized populations now routinely experienced by general user populations and consumers of technology on data-driven platforms.

As surprising has been the increasingly public shows of abuse that even elite knowledge workers and creative content and intellectual property producers endure from the largest US media companies they work for. The 2023 Writers Guild of America and US actors' union SAG-AFTRA (Screen Actors Guild–American Federation of Television and Radio Artists) strike was emblematic of corporations' public display of expendability of even the most familiar celebrity actors and writers of popular programs. The strike began in the summer 2023 over a labor dispute with the Alliance of Motion Picture and Television Producers (AMPTP) caused by streaming and its effect on residual compensations to artists, as well as other new technologies such as AI in the reproduction of digital likenesses. Even tech workers at Silicon Valley's most prominent companies—once coveted as specialized knowledge workers—have faced abuse from displeased tech CEOs. Recent headlines of high-profile tech companies' (e.g., Twitter, SpaceX, Google) mass firing of high-ranking employees who were critical of company leadership and policies readily demonstrated the expendability (Scheiber 2024; Tiku 2020) of once-coveted expert laborers and producers of high technological value.

Perhaps the most telling development around what the new terms of AI-based inclusion now entail was OpenAI's recent replacement and public shaming of most of its four-person, nonprofit-designed board of directors. The unprecedented move in November 2023 came after the original board—two women and the company's chief scientist, all selected to initially prioritize a separation of AI development from profit-based motives—fired the former

CEO of the company, Sam Altman. Altman's aggressive pursuit of profits and commercial fundraising goals before the nonprofit's founding mission to maintain human-centered principles and safety over profits (Allyn 2023), and growing perceptions of him as an advocate "for rapid AI innovation" (Varanasi 2023), had come to generate unabated concerns over his ability to protect OpenAI's founding mission. Altman, however, was rapidly reinstated as CEO and accompanied by a new board that included ex-Salesforce co-CEO Bret Taylor and former US treasury secretary and president of Harvard University Larry Summers, ensuring strong ties to Wall Street and US policymakers. Altman's reinstatement was hailed as not only a win for Big Tech's profit-based pursuits but for the very no-holds-barred approach to AI developments championed by accelerationists (Mims 2023).

In a world of AI-driven consumption, where the recommendations of algorithms can be read as more decisive than users' independent decision-making in determining outcomes, companies see less and less need to cultivate user loyalties and choice. Similarly, a world of AI-produced or replicated content that is understood to perform comparably to human-produced content has made the value of knowledge work harder to sustain and harder to read as anything more than excessive.

We should beware, however, that AI systems' claims to accurately predict the future of consumer need and producers' output are based on calculations for probable futures based on past data. Such datasets are used to build models of what future outcomes will most likely and probabilistically turn out to be. While the forecasts that result can often be relatively innocuous, even when they might be slightly off mark, there are many scenarios where the desired future outcome is explicitly *not* the probable outcome. This is true not only in the case of predicting the likely reality to be faced by minoritized populations—where datasets are too limited or misrepresentative to innocuously or accurately project future outcomes—but is also the case in contexts that involve the protection of minoritized value systems. These include civil rights, feminism, or decoloniality, where majoritarian values and beliefs (whether around White supremacy, patriarchy, heteronormativity, or colonial hierarchy) can often be overrepresented in existing datasets and predictive models. In such cases, it is precisely the probable outcome that should be avoided from projecting into the future.

Such cases remind us how, in a range of scenarios, it is instead exactly models for *improbable* outcomes that we would want to build into future worlds. Indeed, making room for the emergence of improbable worlds applies

to varied scenarios far beyond platform cultures—for example, to medical diagnostics, where diagnostics for minoritized populations and understudied diseases or populations often fall outside the probable models developed for majority populations. Even the emergence of planet Earth, in a universe where still little evidence for other planetary life is known to exist, appears to have emerged as an improbable world. Collective sustainability, that is, may depend precisely upon improbability.

This should also remind us why given datasets and models that overrepresent majoritarian populations have yielded pernicious impacts. Through biasing toward probable outcomes, prediction systems have provided a means to actively amplify majoritarian worldviews into the future. Little wonder, then, that the overblown anxieties of majoritarian populations, patriarchal nationalists, and far-right radicals in context after context across the globe seem to have appeared so suddenly empowered overnight. In the timespace of AI-based predictive systems, the future is just a matter of following the numbers and projecting probable outcome.

TACTIC 4: REFUSE THE DISPOSAL OF USERS AND PRODUCERS

It is worth pausing for a moment to account for how the amplification of probable worlds has played out in AI-driven predictive systems' ability to make digital users and producers appear suddenly disposable in the information present. For decades following the rise of personal computing, digital users and producers were uniquely valued, pursued, and even fetishized members of the networked economy. Celebrated as new engines of value-generating growth, digital users and their loyalties to new platforms and products were read as metricizable, empirical indexes for verifying the viability of new digital start-ups. Digital producers were heroized too as the creators of spectacularly new forms of economic value, intellectual property, and knowledge that accelerated productivity in ways that surpassed traditional labor.

Today, however, the pursuit of datafication and prediction systems, rather than the cultivation of global userships, is the fundamental technique by which the contemporary digital economy expands and colonizes. As I've argued throughout these chapters, datafication and prediction functions remind us of the inseparably eugenic origins of the information economy. As the twentieth century's first powerful and popular datafication movement,

eugenics spread through promising a means (controlled by the elite male knowledge professionals of their day) to universally measure and predict human value and fitness and the worth they would generate (or cost) into the future. By extending data methods that projected an empirical basis for the present and future value of well-born classes (and the absence of value within the so-called unfit), eugenicists could assure themselves that they were uniquely deserving of privileges denied to others. They could assuage their anxieties that their proximity to increasingly diverse classes would fundamentally threaten existence, defined by their access to exclusive privileges in the present and future. Such explicitly racialized techniques for classifying, stratifying, and creating hierarchies between global populations beyond White patrician elites alone likewise helped eugenics grow its popularity, as its adoption by broad, globally expansive users attested to.

A century later, datafication and prediction in the digital economy has provided an altogether distinct advantage for techno-elites. If digital growth in recent decades had secured a clear path for expansion that relied on the growth of users, personal devices, hardware, and digital consumer markets, twenty-first-century datafication and prediction systems adopt a distinct approach. A past reliance on digital consumers meant that global growth necessitated active online consumers and users—ones who later were celebrated as even enterprising “prosumers” of digital products in an online marketplace. It could include a diverse spectrums of users, so long as they were enthusiastic, consenting participants in an allegedly more democratic kind of digital techno-capitalism.

Contemporary datafication and prediction systems, however, have made a critical break from those earlier logics of digital growth. Most dependent on processes of automated decision-making and massified data collection—and now more efficient because of it—their core functions no longer rely on or require the active consent of consumers to explicitly elect to use specific digital systems. Today, datafication and prediction can occur regardless of whether subjects are active, consenting participants. Datafication, prediction, and classification take place seamlessly, often without notice or market spectacle, and frequently without requiring subjects’ active consent. Automatic facial recognition, body scans, and the use and correlative repurposing of previously collected and archived offline records—whether state and law enforcement records, health and purchase data, or other forms of digitizable identity records—all circumvent a reliance on users’ active, knowing, and elective “participation.” Likewise, their classification and predictions around

the risk they carry take place by overriding a dependence on digital consumers' consent. Without a need to cultivate consumer loyalties and persuade users' adoption, datafication and prediction economies have been made more frictionless, automated, and efficient on the one hand and unapologetically "extractivist" and detached from user preferences on the other.

It is no accident, then, that the contemporary data economy and tools of AI and big data have become the chosen resources for authoritarian, nationalist, and explicitly antidemocratic movements, states, and politics. It should be no surprise either that they have likewise given rise to a growing model of techno-eugenic digital capitalists, who, unlike the "do no evil" internet-as-benevolent messengers of an earlier pre-big data age, can now skip over user persuasion and any pretense of a kinder internet-age capitalism. Identifying and cultivating users' democratic choice can now be replaced with the probable prediction of consumer behavior—so much so that investing in growing the consumer loyalties of diverse publics can come to be read as an excessive, unnecessary feature of markets rather than an obligatory channel for expansion. Now able to operate without the distraction of cultivating user demand and adoption, techno-eugenicists can focus singularly on expanding profitability and getting rid of excessive investments. They can likewise now categorize and calculate investments in users and even creative producers as potentially excessive expenditures, no longer needed in an age of prediction-based AI. Under such calculations, creative producers can increasingly be read as replaceable by AI systems that generate likenesses of creative output based on data amassed on past behavior. Likewise, investing in traditional forms of cultivating user loyalty can be seen as increasingly obsolete when users' preferences and market behaviors become predictable entities under datafication systems. Indeed, early twentieth-century eugenicists argued for a vigilance against such wasteful expenditures early on, introducing their calculation a century ago that some users "were born to be a burden on others."

And yet, however extreme such developments, I stress this is not an argument for returning to past models of capitalist production and consumption or for fortifying the market-based logics around individual consent. Such options would be insufficient for recovering a justice-driven model of pluralism in today's prediction-driven data economy. At best, they would only return publics to economic or legal models that narrowly define protections for vulnerable populations facing eugenic policies and markets. What is needed instead is a politics of feminist and decolonial refusal (Cifor et al. 2019; Simpson 2017) that can reimagine technological worlds and data practice and

that can decenter logics of either economic productivity or legal individualism to ground and resituate relations of shared, renewable accountability. We don't have to stay locked in liberal frames under the pretense that they are the best options against techno-eugenic thinking that we can hope for. Indeed, if anything, the preceding chapters have explored the proximity and occasional overlaps between liberal and eugenic rationales. To break out, I've argued, requires cultivating a historical consciousness around datafication and prediction and an embrace of pluralistic practices that emerge outside the realms of liberal law and markets. It requires tactics (de Certeau 1980), that is, that would work in defense of improbable worlds.

TACTIC 5: DEFENDING IMPROBABLE WORLDS

Despite all odds, improbable worlds exist all around us. They are the statistically or politically minoritized contexts, conditions, and outcomes that in their emergence and existence defy probability and the metrics of scale. In their minoritized status, however, they find a means to thrive in the face of given, dominant systems, drawing support from unlikely and unpredictable resources and allies and cultivating new solidarities for such ends. Although they might exist improbably—with other outcomes more likely by numerical or political measure to emerge—they are not less valuable or meaningful. Whether the emergence of unlikely outcomes such as planet Earth in a universe that's largely hostile to life or the thriving of minoritized communities when dominant forces might condition assimilation or incorporation, improbable worlds powerfully shape the heterogeneity and plurality of possible ways of life and being.

This has been harder to notice, however, in a world increasingly defined by digital systems' amplified projections of probable outcomes and futures. This, after all, has been the impact of new prediction-driven AI systems as they have grown to become mundane, loudly self-signally incorporations into everyday environments. The ever-more prolific real-time recommendations such systems deliver provide their assessments to users based on their calculations around a given dataset and the most probable solution sought by users at scale or (less often) a particular user over time. They are delivered via numerous mapping and consumer platforms, large language models and social media, and digital identification and self-driving technologies, among many other AI-based prediction systems that now operate across varied

everyday ecologies. Probable world solutions, for this reason, bias toward the reproduction of dominant worldviews and what has been or can be statistically most represented in a dataset.

While such recommended outcomes can, in some cases, provide users with recommendations that appear to be the safest bet, there are many others for which generating probable outcomes as projected futures empirically fails when compared to real-world outcomes. In other situations, such probability-based outcomes would be undesired for reproducing majoritarian worldviews, biases, and discriminatory hierarchies. The over- or underrepresentation of either majority or minoritized populations can lead AI systems to over- or underpredict real-world outcomes, for instance. This was the case when the AI system COMPAS, used by judges in several US states, was found to wrongly overpredict Black individuals' and underpredict White individuals' likelihood to commit future crimes (Angwin et al. 2016). This was the case, too, when students of color and with visual impairments at the University of Illinois were found to be overflagged as cheating by the facial recognition and online proctoring platform Proctorio (Flaherty 2021). AI systems' probabilistic readings of user tastes in music and arts-based platforms have led creative producers to even critique how systems are encouraging more formulaic, predictable approaches to composition that have narrowed the possibilities for artistic expression as producers are nudged toward designing for tastes that have been measured at scale (Jax 2023). In the meantime, creative producers are pressed to grapple with the numerous other possible forms of expression and creation that are being extinguished through the quiet work of automated prediction.

Such increasingly narrow, monoculturalist terms for inclusion, legibility, and existence within predictive, AI-driven platforms are among the new pathologies publics now navigate as technological evolution and intelligence return to the majoritarian, probable world terms of techno-eugenicists. However, then, as now, accepting such terms is far from inevitable. There continue to be signs and spaces that indicate just how deeply a defense of improbable worlds that enable and multiply minoritized worldviews would be embraced. I have also argued that such inflated cries of existential crisis and xenophobic paranoia are not only age-old strategies used to justify authoritarian practices and resecure majority populations' dominance. The book signals, too, the rising influence of a powerful new generation of techno-eugenic promoters whose darkly cast depictions of present technological decline now operate alongside the more familiar forms of celebratory hype that for

decades had made industry enthusiasm the dominant force in public framings of technology. Both, however, depend on the spread of a probable world and the continued empowerment of dominant classes as the outcome of AI systems. Little wonder that growing publics have come to call for resistance to such systems for increasing bias and limiting the creative possibilities for an independent, unprescribed future.

This book is a reminder, then, of the vast ecologies of multivalent, multitemporalized forms of data work, practice, and studies that resist the monofuturist projections of AI and big data temporalities through explicitly data pluralist practices in defense of improbable worlds. The diversity of relationalities represented across their multisited, multimethod approaches not only defend data pluralism as a vibrantly active feature of research practices that exceed the norms of knowledge and innovation centers, but work to retemporalize and diversify dominant data regimes. Across such spaces we've seen researchers, artists, and activists cultivate local data relations within a multiplicity of transnational sites, interfacing diverse epistemologies and representing pluriversal possibilities. Responding to local needs, projects can take on a variety of aspects and forms. And bringing data together requires the patience and careful labor of committed relationship building across lines of difference that defies big data's restless adherence to an urgent, production- and extraction-demanding innovation time.

Data pluralist commitments emerge from the recognition of the irreducibly varied data methods, formats, tempos, and histories long cultivated and still sustained by practitioners across local worlds. Calling out the false conceit of technological revolution's—and now big data and AI's—projected universalism, they take seriously not only the violence enacted in attempting to deny or disguise the full diversity of data, information, and knowledge possible through probable world readings and reductions. They also remind us of the situated nature of alternative justice-oriented data practices and the varied improbable worlds they support. They remind us that seeing data from below and grounded within local contexts, and rejecting what Donna Haraway called the “god's eye view from nowhere” (1988), is a necessary ethical stance. It may indeed be our best bet for enabling relations of accountability and collaborative being to be centered in data work and diverse local worlds.

Data pluralists' commitment to retemporalize data work in support of improbable worlds, however, should remind knowledge professionals that the work to expel and exterminate regressive temporal orientations has been long going. Indeed, data pluralism's projects recognize how dominant models of

datafication have deleteriously impacted marginalized communities and collective life, eroding temporal worlds as their harms have disproportionately targeted marginalized classes. This dates back over a century and includes eugenicists' obsessive work to dataify immigrants, people living in poverty, and large populations deemed to be mentally, morally, or physically unfit, degrading, and dysgenic. Sharing values and goals with broader data justice and data activism movements worldwide, however, data initiatives operating in defense of improbable worlds have worked to highlight how a long history of silenced data and the ongoing datafication work of dominant knowledge institutions couple to amplify harms marginalized communities face in the era of big data. These harms include the expansion of forms of algorithmic discrimination to the loss of privacy and autonomy, political manipulation, and in extreme cases, organized physical violence.

Working as agents to formulate alternative data futures, however, defenders of improbable worlds and practitioners of data pluralism covered in this project highlight the need to cultivate new methods to engage diverse stakeholders. They respond to the varied temporal orientations of marginalized communities, in particular. It is the commitment to not merely respond to, but to stay, be, and think with marginalized communities—in what feminist scholars have called the tempos of “care time”—that anchor data pluralists' engagements. Their defense of pluri-temporal, improbable world making is thus grounded in the work of situating data practice in a temporal order that unfolds outside that of big data's insistence on a universal temporal regime. From such a vantage, datafication processes can be read not so much as a necessarily abstracted process whose global takeover and grip on the future is already a given inevitability. It can be recognized instead an uneven and locally contingent process that gets differentially shaped across locales by specific forms of resistance and investment of time and care by situated actors. From such a vantage, too, dominant knowledge institutions that have been recognized as driving big data regimes aren't read as decontextualized global forces. Instead, they are entities for which stability relies on sustained coordination across local sites and activities (by specific research clusters, commercial divisions, or public offices, among other local extensions), where local forms of disruption or dissent can still meaningfully register.

Such work, stretching back generations, is a reminder of how long marginalized populations have invested in mounting local defenses and speaking through forms of critical practice to steer knowledge processes toward other futures that would not center globally extractive, segregationist

forms of datafication as inevitable architectures. This book is a call, then, to listen for the tactics fostered to insist on pluri-temporal relationalities and not just productionist time's percussive insistence on control and profit as the aims of technological design and data work. This is a call to foster a closer recognition of the interconnective cultivations such tactics brought forth that made new possibilities come to life across generations.

Such critical reorientations center the experiences, perspectives, and storytelling (Singh, Guzmán, and Davison 2022) of marginalized populations, and in doing so, advance new frameworks in defense of improbable worlds. These include, among others, calls for the abolishment of big data (e.g., Data for Black Lives), data sovereignty (e.g., Global Indigenous Data Alliance), vernacular technology (e.g., Boston South End Technology Center), counter data (e.g., Datos Contra Feminicidio/Data against Feminicide), data bodies defense (e.g., Our Data Bodies, Detroit Community Technology Project, Los Angeles Community Action Network), antispying (e.g., Stop LAPD Spying Coalition, Mijente), and collective benefit (e.g., US Indigenous Data Sovereignty). As forms of situated data practice, the local data encounters they foster engage what feminist science studies scholars argued for as situated knowledge practices that recognize the need for fostering partial and embodied modes of seeing to challenge unlocatable and irresponsible modes of knowledge practice (Haraway 1988). They also reveal, I argue, the inherent multiplicity of potentials for interpretation that surrounds any dataset that users are often encouraged to only see as given and predetermined by the lens of probability.

Such commitments to improbable worlds remind us that dislodging our contemporary imaginaries around data-and AI-driven economies and their singular focus on the privileged sites of “high innovation” is long overdue. Such fixations have artificially kept attentions focused on operations taking place inside the exclusively bounded sites of Silicon Valley firms and research campuses behind the architectures used to digitally process user data. The outsized attention given to the extraordinary singularity of speed and scale in information processing that again and again has been championed as the digital age's highest achievement have only reified probable world castings around big data and AI. And in doing so, they draw attention away from the day-to-day repair and restoration work necessary to contend with the global ecologies of exclusion Big Tech has accelerated and the ever-narrowing terms of vitality and security all around.

We need to reject such distractions and empower new imaginaries and freedom dreams—including improbable worlds around global technologies and society alike—that are not driven by the survivalist fantasies and paranoid anxieties around self-preservation of White, Western(ized) technolites and ruling classes. The call here to think across time and space reminds us how much work has been and continues to be committed to dismantle Western technology's deadly master narrative and to reclaim the aims of pluralistic solidarity, restoration, and repair that diverse marginalized communities around the world have cultivated in data and information work. Other forms of global knowledge futures have long been imagined, too. How to see ourselves in relation and accountable connection to them and decenter the given terms of technology's individualistic use and competition in the name of new solidarities is the challenge of improbable world building we can choose to step into.