THREE

Of Merit, Metrics, and Myth

COGNITIVE ELITES AND TECHNO-EUGENICS IN THE KNOWLEDGE ECONOMY

VETERAN MEDIA JUSTICE ORGANIZER and US digital rights advocate Danielle Chynoweth was candid about her deepest criticism of the technology sectors' growing impact on social services and the hype around venture philanthropy (Brainerd 1999; Moody 2007; Onishi 2015) that began in the early years of the new millennium. She recalled her work with the Google Foundation and the Bill and Melinda Gates's Foundation in the 2010s, the latter now estimated to be the second-largest charitable foundation in the world with over $69 billion in assets. Such outsized investments, however, haven't always translated into improved social services. As she said, "[With] the big Silicon Valley funders . . . there was always another agenda in their funding, which was technological experimentation and gathering information . . . transmission . . . [and in the end] expanding technologies' role and power in social spheres."

It is a criticism that only intensified across the better part of the past three decades, as economists, social scientists, and business leaders pronounced tech industry actors as the leading edge of a new economy centered around knowledge-intensive activities, an increasing reliance on intellectual labor and large-scale information processing (Powell and Snellman 2004). Chynoweth's own work in the same period remained dedicated to developing nonprofit participatory media initiatives that put communication technologies into the hands of underserved, local communities. Her campaigns worked to democratize media ownership and argued for universal media and technology access as a fundamental human right, rather than a commodity supplied through market-driven consumer services. Such a reframing would include Central Illinois's homeless and housing-precarious

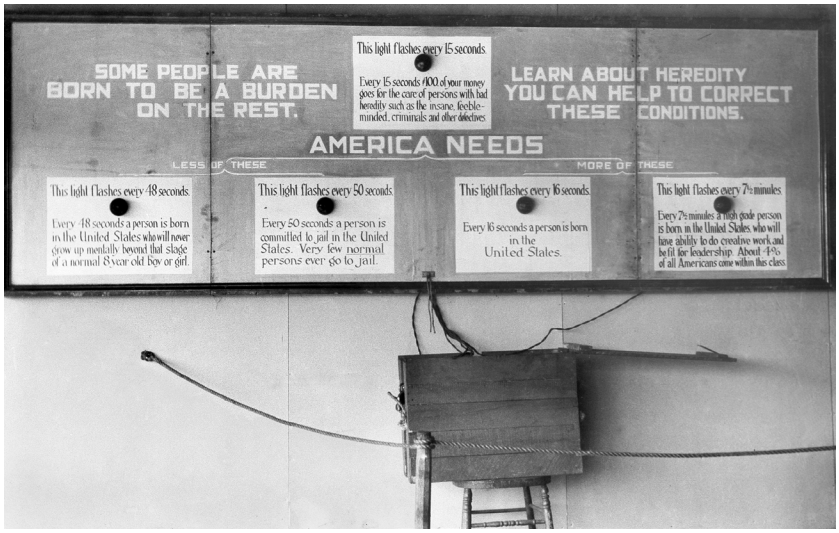

FIGURE 4. An interactive eugenics exhibit by the American Eugenics Society that circulated at US public fairs in the mid-1920s. Large text frames the display, reading "Some people are born to be a burden on the rest." Beside it, a light flashing every fifteen seconds is captioned with the text "Every 15 seconds $100 of your money goes for the care of persons with bad heredity such as the insane, feeble-minded, criminals and other defectives." (Science Photo Library/Alamy Stock Photo)

populations, which she now serves as the head of the Cunningham Township Supervisor's Office in Urbana, Illinois.

And despite being well outside the mainstream in imagining technology's future, Chynoweth has built a remarkable record of successes in establishing new policies and infrastructures for grassroots media. Working with Prometheus Radio Project, she coordinated the national campaign that won passage of the Local Community Radio Act of 2010, implemented under the Obama administration, which authorized government licensing of local low-power broadcasting in urban spaces. Later, as organizing director at Media Justice from 2014 to 2016, she coordinated a national network of racial justice leaders to win policy campaigns for net neutrality, prison phone justice, and broadband expansion for low-income families. Following the 1999 World Trade Organization citizen protests in Seattle, she became a leading voice in the independent media movement, spearheading the founding of Urbana-Champaign's Independent Media Center (UC-IMC) in 2000, still globally renowned for being one of the largest (at thirty thousand square feet) and longest-running independent community media and arts

centers. Today, a quarter century after the historic protests in Seattle, she still serves as a leader of a very active UC-IMC, where a community radio station, media training facility, performance venue, public access computer center, books to prisoners project, and art gallery and studios count among its routine operations.[1]

Across that time, she noted how she increasingly found herself in encounters with tech-sector philanthropists. She had to grow accustomed to the market-based logics driven by industry appetites for the "next big thing" that they brought with them. Despite the deep divides separating their worlds, Chynoweth plainly stated that today, "There is a lot of technology in philanthropy." By 2021, the top ten philanthropic donors were made up disproportionately of technology entrepreneurs, not only the Bill and Melinda Gates and Google Foundations but other familiar headline makers, including Elon Musk ($5.7B in funding in 2021), Michael Bloomberg ($1.6B), Mark Zuckerberg and Priscilla Chan ($1.1B), Sergey Brin and Nicole Shanahan ($816M), Jack Dorsey ($765M), and Jeff Bezos ($511M) (Di Mento and Gose 2022). Chynoweth's observations about the outsized influence such capital-heavy investments would have on philanthropy echo what other researchers have observed about venture philanthropists' self-described push to evolve social services for the twenty-first century through *metric-driven*, data-focused assessments that promised a return on investment in a way traditional philanthropy had never done (Moody 2007).

Despite such conceits, Chynoweth's greatest frustration remains the persistence of a classificatory logic that she recognized as dominant in such organizations' approach to giving and charity: that of the undeserving poor. She cited the long history of classifying the undeserving poor, what historian Michael Katz noted has existed as a defining feature of Western political and social discourse that rose to national prominence in the United States during eugenics' public surge in the early twentieth century (2013). She underscored the particular perniciousness of its use and vitalization in the contemporary knowledge economy, where intensifying techniques of metrification, assessment, and impact evaluation around even poverty management are used to increasingly filter deserving beneficiaries out from the rest. And she echoed its parallel with what Caribbean science studies scholar Sylvia Wynter called the category of "human otherness" peopled by the "jobless, the homeless, the poor, the systemically made jobless and criminalized—of the underdeveloped—all as the category of the economically damnés" (2003, 321).

For Chynoweth, the currency of the "undeserving poor" as a category is what has allowed a "bureaucratization of violence" to emerge against people living in poverty today. Sorting lives into categories of deserving and undeserving poor, it works by applying data protocols and eligibility assessments that project life chances and rationalize economic investments and resource provisions (or denials) for populations that funders rarely see. She did not mince words in describing the visceral brutality of impacts she has witnessed: "A maze of highly rationalized, highly technical processes stands between citizens and residents and the resources they need to avoid tragedy. And whether literally or metaphorically, people can't get access to housing, their fingers freeze, and they get gangrene and then their fingers are cut off." She adds, "This wasn't the result of some dramatic autocratic gesture. We didn't need to take homeless people and chop off their fingers in the public square, but their fingers are gone all the same. This is just the banal, everyday outcome of the bureaucratization of violence."

After more than three years working with Chynoweth in research partnerships oriented toward designing technology programs to support the needs of low-income and underserved populations, I am used to her direct and incisive observations (see more in chapter 6 on these collaborations). Her read on the violence of "dataifying" the undeserving poor directly implicates contemporary knowledge economies and the use of the "undeserving" classification to provide a technical, rationalizing veneer to the deadly, necropolitical stakes at its heart (Mbembe 2003). The designation "undeserving," that is, evidences how powerfully new techno-eugenic logics around metricizing worthy and unworthy life and rationalizing the differential values of human worth now operate to calculate the danger – and cost – unfit populations pose through an inability to integrate into dominant technical regimes. As Chynoweth has written with Elizabeth Adams, "This categorization of the 'undeserving poor,' is driven by logics of superiority such as racism, sexism and ableism that justify care for some and deprivation for others within an avowedly democratic system that would otherwise find such inequities abhorrent. This sorting is supersized by technology . . . [that for some populations have] life or death consequences" (forthcoming). Feminist historian Michelle Murphy likewise described parallel logics as sustained by twentieth-century social sciences' "economization of life" (2017), a mode of valuation rooted in eugenic concerns around population that relied on "the project of racializing life—that is, dividing life into categories of more and less worthy of living, reproducing, and being human" (2017, 5). Through

such classifications, life could be newly understood as a utility for enhancing national economies. As such, value in human lives could be reformulated as "lives worth living, lives worth not dying, lives worthy of investment, and lives not worth being born" across varied policies and economic indices that advance "new kinds of racialization even as they reject biological race as such" (7).

Historians of science thus explored how the economy-focused object of population served eugenic researchers such as Raymond Pearl, a devoted student of the famed English eugenicist Karl Pearson. Through the economy, Pearl found a cunning means to recode biological models of racial hierarchy without making any direct reference to race (Murphy 2017; Ramsden 2002). In the decades following WWII, population's quantifiable object gave researchers a means to calculate the differential value of racialized lives in terms of economic contributions without making racial stratifications explicit. Through such fungibilities, it allowed eugenics—and academic disciplines such as demography that had elevated Pearl—to powerfully assume the cover of political neutrality (Ramsden 2002). That disciplinary cover lasted throughout the twentieth century and remained, historians note, even after Pearl amended his initial framings of population by specifically reintegrating a language of racial hierarchies. Writing a decade later in 1937, he noted that the quantifiably driven biological law of exponential population growth that he had become renown for advancing now appeared to him to apply more to human populations that were less evolved socially and biologically. This included the fertility of groups of foreign and colored populations in the United States coming closest to "the animal pattern" he had famously described a decade earlier with his studies of drosophila fly reproduction ([Pearl 1937, 88] Ramsden 2002, 887).

Population as a quantifiable object, however, was not the only utility that allowed eugenics to find cover and make claims to providing a seemingly race-agnostic, objective regime for the economization of life. This chapter explores how intelligence and mental fitness came to be repurposed too as lasting metrics-based classificatory indices. By providing a numbers-based measure for rationally segregating individuals according to their chances for best utilizing or squandering investments, intelligence provided an "objective" indicator of how well or poorly an individual with given resources of mind and intellect could perform as a productive, profit- or dependency-generating economic asset. By eschewing the language of race, it provided a palatable means to advance eugenic logics across generations. It could thus serve as

a direct planning resource for advancing more competitive modern economies and to "objectively" predict the value of life in relation to future market productivity. As an attribute that eugenicists insisted was hereditary and biologically driven, intelligence further correlated—by eugenic framings—to an individual's moral capacity and propensity for crime, addiction, or laziness. It thus provided a means for allegedly predicting individuals' offspring too as future economic values or liabilities. With such heightened stakes, it could then be deployed by researchers to argue for new monitoring practices over suspect classes—namely, immigrants and people living in poverty—in the early twentieth century. Data collected could then be used to evidence mental unfitness, and later, to call for massive exclusions or segregations based on projected economic impacts.

Decades later, as a newly hailed knowledge economy came into view in the late twentieth century, resonant queries prominently shaped national public discourse once again. If cognitive elites (Herrnstein and Murray 1994) continued to outperform others in a technologically driven marketplace, why should public investments adhere to democratic rather than meritocratic logics based not on a vision of equality but on distributed rewards according to differential merits? What would responsible public policy look like, if wasted investments in some forms of life could not only be empirically mapped and tied to intelligence data, but could be argued to amplify economic inefficiencies that detracted from deserving, intellectually competent, and competitive classes?

This chapter draws a through line from the eugenics thinking of the early twentieth century to the meritocratic logic of the late twentieth century that directly fed into contemporary techno-eugenics. It demonstrates how metrics and merit worked together to provide techno-eugenics with an objective cover and means to dodge accusations of racism across the twentieth century. This occurred even as their program for justifying racialized stratifications remained fundamental to its project. Central to this was the work of datafication around the undeserving poor and the cognitive elite that enabled both categories to endure across the twentieth century. The persistent demands around their measurement and monitoring that first rose to prominence with eugenics research circles and their obsession with objectifying a universal measure for human intelligence thus continued to shape national debates. These debates raged with the rise of the knowledge economy from the late twentieth century and into the new millennium as models of predicting hereditary intelligence reemerged through techno-eugenics.

I close this chapter by tracing a transition from vilifications of the undeserving poor to contemporary defenses of their counterpart—the deserving cognitive elite. In an era of growing applications of artificial intelligence (AI), where AI-driven models heighten new anxieties around competitive superiority, predictions by tech-sector leaders of widescale societal regress have increasingly begun to circulate. Such accusations of technological stagnation project blame on a political unwillingness to fully embrace AI's future or empower a cognitive elite by instead sustaining support for underproductive and undeserving populations and sectors. Such condemnations are rooted in eugenics' generations-old arguments around the enduring threat that democratic institutions allegedly pose to a true social evolution driven by cognitive elites. But if democratic norms around public welfare and inclusion erected obstacles to techno-eugenic promotions of natural hierarchy and "evolution through innovation", at least the data-driven knowledge economy might enable a site where the unfettered freedoms of deserving individuals, and the merits (rather than privileges) of the cognitive elite might at last be realized.

METRICIZING THE UNDESERVING POOR

US poverty historian Michael Katz reminded us that while the classification of the undeserving poor has existed across centuries, it was only in recent modern history that it came to be widely read as something resulting from individual failure and personal inadequacy. For large parts of history, poverty was seen as a largely inescapable and inevitable phenomenon brought about from a general condition of scarcity. While a "soft" version of poverty as individual failure might have attributed poverty to laziness, immoral behavior, inadequate skills, or dysfunctional families (that might still be reformed), not until the late nineteenth century with the arrival and rise of eugenics did a "harder" version of a biologically determined undeserving poor emerge (and become datafied) as a central object of research. Eugenic researchers labored across the late nineteenth and early twentieth centuries to demonstrate poverty not as the result of inevitable scarcity or the result of structural exploitations, as labor reformers argued, but as the result of inherited deficiencies that concretely limited intellectual potential, encoded harmful and immoral personal proclivities, and concretely circumscribed economic achievement. Coupled with what Katz called Progressive Era

economists' "discovery of [economic] abundance" in the early twentieth century, he wrote that a new "world of possibility where poverty no longer was inescapable" (Katz 2013, 3) emerged. It was one, however, that "carved a hard edge of inferiority into ideas about poor people" (Katz 2013, 3) who failed to apply the same resources (whether personal, material, and information-based) others had as vehicles for wealth creation. Or so the myth went.

From the start of their earliest research endeavors in the late nineteenth century, eugenicists sought to "dataify" the empirical degeneracy of the mentally, physically, and morally unfit and the hereditary nature of dysgenic traits, whether criminality and licentiousness, or laziness, alcoholism, and pauperism. They also aimed to concretely objectify the empirical superiority of the well-born and the hereditary nature of their gifts, singling out "character and intellect," in particular, from their earliest endeavors. Francis Galton, a cousin of Charles Darwin and the English biostatistician credited with founding eugenics, published "Hereditary Character and Talent" in the distinguished London periodical *Macmillan's Magazine* (whose contributors included prominent literary and scientific figures of the day) as his earliest manifestation of eugenic methods in 1865. As covered in chapter 1, Galton targeted *Macmillan*'s explicitly elite, educated, urban audience to launch his argument, appealing to his readership by offering them evidence of genius as a hereditary trait passed down through the well-born. Drawing from selected portions of five biographical dictionaries, four English and one French, which he argued represented "the chief men of genius whom the world is known to have produced" (1865, 159), he built a statistical analysis aiming to demonstrate familial, biological relations among the men represented. He insisted that "abundant data" supported his hereditarian claims. Asserting an aggressively anti-egalitarian vision for conserving Western-led progress, he wrote the essay in the same period as the US Civil War was entering its final stages, and when the Haitian Revolution, the 1857 Indian mutiny, and varied independence uprisings by colonized peoples of color across the European empire had raised the promise of new liberty for formerly enslaved and subjugated peoples across the West. While framing the article around genius and talent as characteristics of well-born elites, he did not miss the opportunity to make his larger point: that broad peculiarities of character that created expenses on the state and well-born, including "craving for drink," "pauperism," and proclivities to "crimes of violence" and "fraud" (1865), were all inheritable. Beyond a critique of global liberation and independence movements—which he projected implied a threat for

the future of genius and intelligence—Galton aimed his invective toward a critique of national welfare in the West. Such policies, he argued, artificially preserved the lives of the weak and "deteriorated the breed" (1865, 326). Were social elites empowered to enforce an economy of controlled, selective breeding in Western nations, instead, he argued, what "prophets and high priests of civilization" and "what a galaxy of genius might we not create!" (1865, 165).

Galton's formula for promoting eugenics, which focused as much on proving an information-based profile of the "deserving elite" as dataifying the "undesiring poor," continued to be replicated by growing global cohorts of eugenic researchers. Across the next half century, many worked obsessively to develop a spate of biostatistical measuring techniques and new qualitative and quantitative data methods and research instruments to bolster their claims around mental fitness. By the late 1870s, Galton published in social sciences and technical journals on his development of composite portraiture—a technique that visually blended multiple facial photographs to render predictive, prototyped images of healthy, criminal, and Jewish "types" (1883). His obsession with eugenic accounting and education also led him to develop datafication methods and techniques accessible to wider audiences. Among them was a self-developed, handheld, "invisible" counting pad that allowed the counter to pick a hole with a pin-based counter held in one's pocket. Galton used this to surveil and count what he considered to be "attractive" women in neighborhoods. By the 1880s, in pursuit of the idea that intelligence would surface in the form of sensitivity of perceptions, Galton opened his "Anthropometric Laboratory," a thirty-six-foot-long by six-foot-wide testing space that he used to stage a variety of his self-designed measuring instruments and gather data on publics who attended the International Health Exhibition in London (Herrnstein and Murray 1994, 2). For a price of three pence, individuals could proceed through the lab's successive stations to have their data recorded across a spectrum of tests measuring their acuity of sight and hearing, sensitivity to slight pressures on the skin, and speed of reaction to simple stimuli. While some stations recorded the height, weight, and eye and hair color (what Galton wrote could be correlated to robust health) of individuals, others offered devices to measure the highest audible note individuals could perceive or measured breathing power and capacity, strength of pull and squeeze, and swiftness of blow (Galton 1884). Proudly, Galton wrote at the end of a twelve-page pamphlet he published in 1884 with the details of the lab's content, "Most of the instruments in use at the Laboratory are wholly or in large part of my own designing" (1884, 12).

By the end of the century, Galton's obsession with hereditary genius and his parallel anxieties around the spread of "feeblemindedness" in the West led to founding the field that came to be known as psychometrics. Particularly in the United States, researchers inspired by Galton's eugenics channeled their enthusiasms toward the development and spread of varied instruments for the measurement of psychological faculties. These gave rise to new global appetites for dataifying and objectifying human intelligence. Such investments, as the head of the New York–based Eugenics Record Office (ERO) Charles Davenport put it after founding the ERO in 1904, were key in shaping new policy that could, at last, "purify our body politics of the feeble-minded, and the criminalistic and the wayward by using the knowledge of heredity" (Katz 2013, 32), particularly since, as Davenport asserted to fellow eugenicists, welfare agencies were a "force crushing our civilization" (Rosenberg 1997, 95).

In the early decades of the twentieth century, US eugenicists saw to the development of various techniques, methods, and models for the measurement of so-called hereditary intelligence packaged as administrable exams and intelligence quotient (IQ) tests sold by the hundreds of thousands to state and government institutions. Ironically, they had been derived from the work of psychologist Alfred Binet, who, in 1904, was commissioned by the French government (following the nation's establishment of public education) to develop techniques to identify school children in need of some form of special education beyond the standard classroom. Binet remained adamant to his death that the techniques he developed were not a measure of intelligence (Gould 1981, 181). Although Binet's method assigned scores to children derived from the "mental age" indicated by "age-assigned tasks" they were able to complete during an exam, Binet insisted that intelligence was too complex to be reduced to a single number that could be used to rank and compare individuals as a generalizable practice. He explained, "The scale, properly speaking, does not permit the measure of intelligence, because intellectual qualities are not superposable, and therefore cannot be measured as linear surfaces are measured" (1905a, 40). He was concerned that his techniques could be used as predictive tools to indelibly classify a child as backward, or to permanently deny care. He warned of how schoolmasters with "exaggerated zeal" (1905b, 168) might use the tests as an "opportunity for getting rid of all the children who trouble [them]" (1905b, 169) or might create rigid classifications around a child that would become "a self-fulfilling prophesy." Binet shared his new methods by raising the recent memory of

the political scandal around the Dreyfus Affair—a scandal that involved Alfred Dreyfus, a French artillery officer of Jewish descent who was exonerated of baseless charges of treason after a two-decades-long series of anti-Semitic campaigns by the French press and military. As Binet cautioned, "It is really too easy to discover signs of backwardness in an individual once one is forewarned. This would be to operate as the graphologists did, who, when [Alfred] Dreyfus was believed to be guilty, discovered in his handwriting signs of a traitor or a spy" (1905b, 170).

Binet stressed early on the varied limits of his method, underscoring what it was not, as much as what it was designed to do. He declined to define IQ as a measure of inborn intelligence. He insisted that his scale was designed for the specific purpose of the charge given by France's Ministry of Education and was only useful as a guide for identifying children in need of special education. It was not a general device for ranking all pupils by mental worth, for affirming eugenic claims of hereditary feeblemindedness, or for predicting and projecting a fixed state of mental inferiority that would be used to classify an individual in perpetuity (Gould 1981). As Binet wrote in his 1905 article introducing his new method, examiners should only consider the results of their study of any child as an indicator of that child's "condition at the time and that [time] only. We have nothing to do either with his past history or with his future; consequently . . . we shall make no attempt to distinguish between acquired and congenital idiocy . . . [and] we do not attempt to establish or prepare a prognosis. . . . We shall limit ourselves to ascertaining the truth in regard to his present mental state" (1905a, 37). Such explicit delimitations against prediction, for historian Joanne Brown, demonstrated Binet's larger commitments towards a model of "mental orthopedics" that evoked "a whole system of meaning, founded on a humane, ameliorative approach to medicine" (1992, 82) over epidemiological models that emphasized pathology. As Gould put it, it demonstrated Binet as less concerned with the impacts or "cause of poor performance in school" than in identification "in order to help and improve, not to label in order to limit" (Gould 1981, 182).

Despite Binet's specifications, eugenicists were quick to realize the potential in his scale, particularly proponents such as the US psychologist Henry H. Goddard. Goddard became increasingly convinced that of all hereditary traits, inferior intelligence and mental deficiency were the chief determiners of problems of human conduct and the source of most undesirable behavior. In 1908, just a few years after Binet's first publications on his testing methods

were published, Goddard began translating the Binet test into English and distributing the test—around eighty-eight thousand copies by 1916—across US institutions (Goddard 1916). Goddard, like Binet, had worked with children in the early 1900s as the director of research at the Vineland Training School for Feeble-Minded Girls and Boys in New Jersey (Katz 2013). Unlike Binet, however, Goddard, a fervent eugenicist, was convinced that deficient intelligence in children was genetically determined. Moreover, he believed it was the primary indicator of a future of deficient emotional and moral control—understood as the cause of criminality, alcoholism, and prostitution—that would inevitably require greater state intervention and public investment to address. He was likewise convinced that high intelligence, framed as the single most important human attribute, enabled not only strong cognitive aptitude but also good judgment and a mastery of emotions that he argued underpinned moral behavior before society and the state (Gould 1981). Intelligence, as he wrote, "[c]ontrols the emotions and the emotions are controlled in proportion to the degree of intelligence. . . . [I]f there is little intelligence the emotions will be uncontrolled and . . . will result in actions that are unregulated. . . . Therefore, when we measure the intelligence of an individual and learn that he has so much less than normal as to come within the group that we call feeble-minded, we have ascertained by far the most important fact about him" (1919, 272).

By 1910, Goddard was promoting a three-tiered system for classifying feebleminded individuals and introducing new terminology around the category of "the moron" that he had come to stress in his invectives demanded newly intensified measures to manage. He promoted his new taxonomy at the American Association for the Study of the Feeble-Minded's 1910 annual meeting, specifying that morons are those with an IQ of fifty-one to seventy, who ranked higher than previously recognized classes of "imbeciles," whom he specified were those with an IQ of twenty-six to fifty, and "idiots" with an IQ of zero to twenty-five. However, as higher-ranking undesirables who might pass unnoticed and even procreate among nondefective populations, morons, Goddard warned, posed the real risk to well-born society. He wrote in his best-selling study of hereditary feeblemindedness, *The Kallikak Family*, a book infamously filled with doctored photos of physically altered subjects that nonetheless popularized his new taxonomy of defectives in 1912, "The idiot is not our greatest problem. He is indeed loathsome. . . . Nevertheless, he lives his life and is done. He does not continue the race [but]. . . . [i]t is the moron type that makes for us our great problem. And when we face the

question, 'What is to be done with them . . . ?' we realize that we have a huge problem" (1912, 101–2).

Goddard served as a consultant for the American Breeders' Association, helping devise their 1914 position that "defective classes be eliminated from the human stock through sterilization" (Hothersall and Lovett 2022, 361). He also advocated for establishing an intelligence testing program to monitor and assess new immigrants arriving at Ellis Island for mental fitness, focusing only on those he could identify as the lowest economic strata. He began an infamous study on immigrant intelligence in 1913 that collected data exclusively from immigrating passengers who had arrived by travel in steerage class—the cheapest means of travel—and ignored entirely those who had traveled in either first- or second-class passage. Noting in the study that he omitted individuals who were either "obviously" normal or feebleminded to focus on feebleminded persons who would not be obvious to immigration officers without the aid of tests, he assembled a staff to work with him over three months to administer an intelligence exam to a preselected group of 178 people who were of Jewish, Italian, Hungarian, or Russian descent. Among the assessment questions, all delivered in English, that he designed were "What is Crisco?" (the US-made cooking product introduced just two years earlier as an alternative to butter and lard) and "Who is Christy Matthewson?" (an American football player). Respondents were also shown a picture of a tennis court without a net and asked what was missing (Hothersall and Lovett 2022, 363). Based on responses to his questions, over 80 percent of all respondents were found to be feebleminded, confirming, as Goddard wrote in 1917, "that a surprisingly large percentage of immigrants are of relatively low mentality" (Goddard 1917, 269).

Even as Goddard admitted that such a large percentage might invite disbelief among readers, he asserted that "[i]t is never wise to discard a scientific result because of apparent absurdity. Many a scientific discovery has seemed at first glance absurd. We can only arrive at the truth by fairly and conscientiously analyzing the data" (1917, 266). He went on to rationalize the results by describing the changing nature of European immigration, which, prior to 1900, had disproportionately come from northern and western Europe, and which, in later decades, had increasingly come from eastern and southern Europe. As Goddard characterized it, "It is admitted on all sides that we are getting now the poorest of each race" (1917, 269). Notably, a consideration of one potential economic impact seemed to give him pause over how strictly the exclusion of feebleminded immigrants—"morons" in particular—should

be enforced. Underscoring the potential utility of "mentally defective" populations in the workforce, he wrote,

> At least it is true that they do a great deal of work that no one else will do. . . . It is perfectly true that there is an immense amount of drudgery to be done, an immense amount of work for which we do not wish to pay enough to secure more intelligent workers. . . . May it be that possibly the moron has his place? . . . [P]erhaps after all it is a superficial view of that problem to say, we will eliminate them all as fast as we can. It may be vastly wiser, more scientific, and more practicable to say, we will accept the moron, discover him as early as we can, train him properly and use him as far as his limited intelligence will permit (Goddard 1917, 268).

He nonetheless reminded audiences that "the question of heredity" should not be overlooked, given that "[m]orons beget morons" (Goddard 1917, 270). Such competing considerations, Goddard concluded, could be resolved through a multipronged approach to the undeserving poor that included sterilizing immigrant morons (just as the nation was doing with "native morons"), deporting imbeciles, and finally, his own readers taking public action. As he wrote, "All of this means that if the American public wishes feeble-minded aliens excluded, it must demand that Congress provide the necessary facilities at the ports of entry" (1917, 271).

Goddard ended the article by proudly sharing the dramatic expansion in deportations of mentally defective populations from Ellis Island—by 350 percent and 570 percent in 1913 and 1914, respectively—that his study had triggered. This, he concluded, was what the promise of mental testing as a means to monitor the unfit had quickly made possible. He wrote, "This was due to the untiring efforts of the physicians who were inspired by the belief that mental tests could be used for the detection of feeble-minded aliens" (1917, 271). Indeed, within just a few years after Goddard's publication of the use of mental tests at Ellis Island, what historians have noted as a rapidly growing testing enterprise (Brown 1992) could already be seen expanding globally, with sales reaching "astonishing" levels (Katz 2013, 36). By 1923, Princeton psychologist Carl C. Brigham followed Goddard's arguments in a book titled *A Study of American Intelligence*, which used the results of the US Army's World War I mental testing program to predict that an influx of immigrants from southern and eastern Europe would lower native-born Americans' intelligence. Immigration therefore should be restricted to Nordic and northern European stock. By then, too, nearly four million test copies of the National Intelligence Test had been sold (Katz 2013). Historians

noted that by the 1920s "the entire public educational system of the United States had been reorganized around the principles of mental measurement, [with] the psychological profession [producing] more than seventy-five tests of general mental ability" (Brown 1992, 4). Copies of Goddard's test were also being distributed in at least twelve countries, including Canada, Great Britain, Australia, New Zealand, South Africa, Germany, Switzerland, Italy, Russia, China, Japan, and Turkey (Goddard 1916). And by 1930, at least nine million adults and children in the United States alone had been tested by one of the Binet-Simon revisions (Brown 1992; Hothersall and Lovett 2022).

By the beginning of the 1920s, IQ had entered the American vernacular and was largely understood, despite the debates that still surrounded it, as a synonym for intelligence. Varied schools—including school districts in Springfield and Boston, Massachusetts; Peoria, Illinois; Trenton, New Jersey; Buffalo, New York; Atlanta, Georgia; and Oakland and Berkeley, California—had begun to incorporate mass intelligence testing as part of school routine by 1926. Detroit students took tests in the first grade to determine the grouping they were assigned for the first six years of schooling, as well (Brown 1992). Critics of the use of mental tests began to raise "a chorus of political dissent . . . around the issues of democracy, mental testing, and 'educational determinism'" several years following their mass marketing and promotion. Social historian JoAnne Brown wrote, however, that they found themselves "hard-pressed to mobilize sufficient counterevidence to remove the tests," given that "[testing] professionals [had] established a data base that was, by virtue of its sheer size, nearly impossible to challenge" (Brown 1992, 6–7). By the early 1920s, Brown concluded, "Mental testing was no longer an experimental technique but a commercial enterprise in which many individuals and institutions had a stake" (138).

As significantly, by the 1920s, public education campaigns by the American Eugenics Society (AES) reflected lessons from Goddard connecting mental unfitness and feeblemindedness with national economic degradation and regression. In varied eugenic exhibits that the AES installed at public fairs across the nation, interactive displays framed with the text "Some people are born to be a burden on the rest" invited visitors to observe a series of flashing lights. Around one light that was labeled as flashing every forty-eight seconds, a caption read, "Every 48 seconds a person is born in the United States who will never grow up mentally beyond the stage of a normal 8-year-old boy or girl." Beside it was another flashing light with the caption, "Every 50 seconds a person is committed to jail in the United States. Very few *normal*

persons ever go to jail." Above the boxes, large text pronounced "American needs less of these." Around another light that flashed every seven-and-a-half minutes, a caption read, "Every 7–1/2 minutes a high grade person is born in the United States who will have ability to do creative work and be fit for leadership. About 4% of all Americans come within this class." Above it, large letters indicated "American needs more of these." Above them all hovered a single light that flashed every fifteen seconds that punctuated the economic rationale and critique of waste and excess under welfare state policy channeled in the display. "Every 15 seconds," it read, "$100 of your money goes for the care of persons with bad heredity such as the insane, feeble-minded, criminals and other defectives."

The rapid expansion of an intelligence testing enterprise and the ready popularization of eugenic classifications around mental fitness through the projection of economic futures and the impact on healthy populations readily demonstrated to Goddard the viability of such strategies to protect the political power of the established White elite in a context of rapid global change. As importantly, it provided a means to press for a reinvention of democracy, uprooting the meaning of democratic government from conventional definitions as historically rooted (as he acknowledged) in a "rebellion against a so-called aristocracy." By allowing that people rule instead by selecting "the wisest, most intelligent and most human to tell them what to do to be happy," democracy could be "a method for arriving at a truly benevolent aristocracy" (Goddard 1919, 237). Just a year later, Goddard conceded that "unintelligent millions" might eventually "decide to take matters into their own hands" in a kind of "Russian-style revolution" (Hothersall and Lovett 2022, 376). He reasoned that his version of a restyled democracy would readily resolve such a possibility by ensuring that such populations be quickly disenfranchised and that established democratic governments be reinvented as hierarchically organized meritocracies based on intelligence testing instead.

THE KNOWLEDGE ECONOMY AND THE RISE OF THE COGNITIVE ELITE

Nearly a century after the release of Binet's scale, US social scientists hailed the final decade before the new millennium as a new kind of knowledge economy (Castells 1996; Powell and Snellman 2004). The same period saw proclamations of the rise of new cognitive elite classes and an unapologetic

revival of eugenics' pro-hereditarian standpoint on intelligence with the publication of *The Bell Curve: Intelligence and Class Structure in American Life* (1994). Written for a popular audience by longtime conservative and libertarian authors Richard Herrnstein, a Harvard psychology professor, and Charles Murray, a fellow at the American Enterprise Institute, the text infamously set off a pitched national debate. The authors reasserted a biological basis for intelligence and correlating individual achievement, socioeconomic success, and professional productivity with hereditarily determined IQ measures (Jacoby and Glauberman 1995). Across over eight hundred pages of content, replete with tables, graphs, and data on IQ, they argued that America's most pressing economic and social problems could be empirically traced to questions of intelligence and populations with lower intelligence. Through such data, the authors aimed to underscore how lower and higher IQs mapped across racial and ethnic differences, with White populations demonstrating higher levels than Black and immigrant groups, now dominated by populations of non-European descent. Echoing eugenicists from generations past, they channeled their data toward a critique of democratic policy and welfare programs as wasteful expenditures that detracted from support for the gifted and cognitively deserving. Attacking a broad sweep of welfare, education, and immigration allowances, they closed their text by asserting that inequality "is a reality" and investments "trying to eradicate inequality . . . [have] led to disaster." As the authors wrote, "It is time for America once again to try living with inequality" (Herrnstein and Murray 1994, 551).

Selling four hundred thousand copies in its first two months after publication, the text's overnight bestseller status sent its eugenicist arguments into the headlines of nearly every major US news magazine and newspaper. It appeared on the front page of the *New York Times Book Review, Newsweek*, and the *New Republic*, and was featured on National Public Radio and popular television news programs, including *Good Morning America* and *Meet the Press* (Staub 2019). Such popular reception in the United States was by no means a given. The decades following WWII saw the fervent hereditarian and biological determinist standpoints that had once been so publicly at the center of eugenics' mission gradually wane as an "environmental consensus" (Katz 2013) around individual achievement began to rise. By the beginning of the 1960s, historians noted that confidence was running high that early educational interventions could accelerate the cognitive abilities of disadvantaged children (Staub 2018). While the same period saw the testing industry and profession around psychometrics flourish, with hundreds of millions of

people worldwide being tested every year (Staub 2018), historians noted that the most controversial uses of tests to promote eugenic laws and discrimination fell silent during this period. They remained out of the public eye, with few vocal champions, for decades. This changed in 1969 when Arthur Jensen, an educational psychologist from the University of California at Berkeley and grantee of the eugenics- and race science–dedicated Pioneer Fund (whose first president in 1937 was the Eugenics Research Organization's own Harry Laughlin), published an article in the *Harvard Educational Review*. It attacked compensatory and remedial education as a failed public expenditure. Jensen argued that such programs, which targeted Black and other minority students, would inevitably continue to fail because they were aimed at populations with relatively low IQs, a largely heritable trait (80% heritable, according to Jensen) that therefore would remain immutable, regardless of external interventions (1969).

Just two years following the publication of Jensen's article, a fellow grantee of the Pioneer Fund, Nobel laureate physicist William Schockley, defended Jensen's arguments around the wasteful economics behind the nation's welfare policies, adding that they would only lead to future social and economic regression. He told the National Academy of Sciences in 1971 that "our nobly intended welfare programs are promoting dysgenics—retrogressive evolution through the disproportionate reproduction of the genetically disadvantaged" (Katz 2013, 40). He followed this with recommendations to counteract such trends, suggesting as a "thought exercise" a scheme for paying people with low IQs $1,000 to be sterilized and advocating a sperm bank for geniuses. He was echoed shortly after by a young Richard Herrnstein, who wrote in a September 1971 article titled simply "IQ" in *The Atlantic* that "the tendency to be unemployed may run in the genes of a family about as certainly as bad teeth do now" (1971, 63).

Scholars and public commentators voiced alarm over the "new eugenics" (Hothersall and Lovett 2022; Katz 2013) leading voices seemed to be stirring among public appetites in the 1970s and early 1990s by leveraging arguments around race and hereditary intelligence. While many pondered why such arguments had reemerged with force in the 1970s and 1990s, after seemingly lying dormant for years, Herrnstein and Murray were clear about the resonances they saw between their argument around IQ, race, and future achievement and framings of the contemporary era as defined by an information-driven knowledge economy. As they wrote in *The Bell Curve*, highlighting the economic demands for what they called the new "cognitive

elite" in the contemporary age, "In our time, the ability to use and manipulate information has become the single most important element of success, no matter how you measure it: financial security, power, or status. Those who work by manipulating ideas and abstractions are the leaders and beneficiaries of our society. In such an era, high intelligence is an increasingly raw material for success . . . [in] a new kind of class structure led by a 'cognitive elite.'" They further connected such an organically evolving economy with the demand for more "complex" forms of labor and workers able to cognitively process complexity.

Leveraging the notion of an empirically observable economy as a means of distancing themselves from merely political editorializing, they wrote matter-of-factly, "Today's technological frontier is more complex than yesterday's" (98). Given that the capacity for individuals to manage "complexity is one of the things that cognitive ability is most directly good for" (541), the undeniably growing complexity of contemporary life in a technologically infused society would value and reward the labor of the cognitive elite more than labor less efficiently performed by others. Moreover, today's technologically infused economy had evolved to complexity on its own, they argued, rather than through the structural forces and interventions of either the state or private sector, and it required less regulation to align with society's needs. Opening *The Bell Curve* with a nod to the "economization" of life, then, they highlighted the links between IQ and economic productivity, writing that the link between IQ and occupation "goes deep. If you want to guess an adult male's job status, the results of his childhood IQ test help you as much as knowing how many years he went to school" (51). They added that "a smarter employee is, on the average, a more proficient employee" (63) and that "the advantage conferred by IQ is long-lasting . . . [with] the smarter employee tend[ing] to remain more productive than the less smart employee even after years on the job" (64). Despite the fact that "since 1971, [the US] Congress and the Supreme Court have effectively forbidden American employers from hiring based on intelligence tests," they nonetheless recommended that "an economy that lets employers pick applicants with the highest IQs is a significantly more efficient economy" (64), adding what the authors estimated to be another $80 billion to the economy annually.

After dedicating the second part of the book to chapters on "how much [low] intelligence has to do with America's most pressing social problems" (115)—including crime, poverty, unemployment, workplace injury, idleness, welfare dependency, and single-parent families—the authors spent the final

chapters taking aim at various government programs that they read as irresponsible expenditures leading to a dysgenic nation. This included familiar eugenic tropes—from immigration, which they called a "major source of dysgenic pressure" (341), to affirmative action, special education, and compensatory education programs. Those programs targeted underserved and minority youth that "dumbed down" education (417) and taxed gifted students whom the authors claimed were "out" of favor for the last thirty years, as federal funds targeted so-called "in [favor]" disadvantaged students. By the authors' avowedly apocalyptic (509) projections of the nation's future, the US government set society on a course toward self-destruction by insisting on policies to support the vulnerable and working against the "reality" that the nation had "naturally" evolved through the economy into a hereditary meritocracy.

Countless editorials and public commentaries emerged to counter *The Bell Curve* in the wake of its release. Editorials from the *New York Times* to the *Los Angeles Times* lambasted the text for its revival of long-debunked eugenic theories (Jacoby and Glauberman 1995). Social scientists, biologists, and educators were likewise among the vocal critics who underscored the authors' selective use of educational statistics and flawed and sloppy representation of scientific literature on heredity and IQ. They also criticized the authors' conspicuous citation of varied researchers—seventeen in all—who were known contributors to *Mankind Quarterly*, a far-right publication funded by the Pioneer Fund. The publication has been called a "cornerstone of the scientific racism establishment" (Kinchelow, Steinberg, and Gresson 1997, 40) and a "White supremacist journal" (Saini 2019), whose founders included champions of apartheid in South Africa as well as former leaders of Italy's eugenics movement under fascism (Lane 1995). Notably absent from the dissenting voices, however, were those very actors at the center of *The Bell Curve*'s information economy—namely, the engineers and tech entrepreneurs placed at the center of Murray and Herrnstein's cognitive elite. Their silence on the topic channeled an assent to their elevation in the new economy. Neither were there any direct refutations on the economic framing of *The Bell Curve* by social scientists or economists who had helped to introduce the language of knowledge economy into a public lexicon. Their silence, too, suggested alignment with reading the escalating inequities of race and class in the knowledge economy as naturally evolving, rather than structurally produced, outcomes.

Over two decades later, historians lament *The Bell Curve*'s "lasting impact on policy discussions of race and intelligence" (Staub 2018, 148) and their

continued connection to the nation's economic productivity. More recently, outlets such as *Scientific American* and the *Humanist* noted a resurgence of *The Bell Curve*'s popularity, with revived sales and author Charles Murray (Herrnstein passed away in 1994 shortly after *The Bell Curve*'s publication) reappearing across national talk, broadcast, and podcast circuits in the years following the 2016 US presidential election (Evans 2018; Seigel 2017; Zevallos 2017). Leadership from Silicon Valley companies, which just three decades ago in the mid-1990s had been entirely absent from the five most traded companies on US exchanges and which by 2021 made up all five (Chafkin 2021), still remained largely silent on the ongoing debate around genetics, intelligence, and economic progress. Helping solidify and later popularize the image of new, intellectually dependent work and heroic technological innovators in the public consciousness, leading social scientists and scholars who had argued for the emergence of a knowledge economy early on still refrained from commentary or intervention around the issue. Researchers continued to treat the sustained fetishism around hereditary intelligence and its link to the flourishing of national economies as if it were outside their domain. This occurred even as early theories on the growing power of knowledge work and scholarly literature around the knowledge economy gained popular currency, and as Silicon Valley and the technology industry's global rise was celebrated across international headlines for generating unprecedented scales of wealth.

Those that were vocal, such as Silicon Valley's Peter Thiel, the outspoken libertarian venture capitalist and billionaire cofounder of PayPal and Palantir Technologies, echoed the explicitly pessimistic tones of *The Bell Curve* and earlier eugenic authors. Thiel notably channeled his critiques toward a new techno-eugenic framework that emphasized the imperative of evolution through innovation. In 2009, Thiel already espoused contempt for what he read as the economically degenerative, innovation-blocking policies of the regulatory welfare state that insisted on supporting regressed populations. They made it necessary for actors like himself to intervene to ensure "the world [is made] safe for capitalism" (Thiel 2009).[2] He elaborated further in an essay for the Cato Institute, writing,

> I no longer believe that freedom and democracy are compatible. . . . The future of technology is not pre-determined, and we must resist the temptation of technological utopianism—the notion that technology has a momentum or will of its own, that it will guarantee a more free future. . . . A better metaphor is that we are in a deadly race between politics and technology. . . . The

> fate of our world may depend on the effort of a single person who builds or propagates the machinery of freedom that makes the world safe for capitalism (Thiel 2009).

A decade later, Thiel publicly endorsed Donald Trump for US president, speaking for him at the Republican National Convention and pouring funds into Trump-backed candidates' campaigns (Heffernan 2021), including Trump's 2024 vice-presidential running mate, JD Vance (Kinder, Hammond & Rogers 2024). Far from merely an eccentric technologist turned political dabbler, Thiel has been credited more than any other investor or entrepreneur with "creating the ideology that has come to define Silicon Valley: that technological progress should be pursued relentlessly—with little, if any, regard for potential costs or dangers to society" (Chafkin 2021, 10). His success in ruthlessly pursuing a singular drive toward technological advancement, at whatever cost, "has earned him troves of devotees in Silicon Valley and around the world who read him as a techno-libertarian whose pursuit of technological advancement channels nothing less than deep commitments to personal freedom, scientific progress, and even salvation" (Chafkin 2021, 10). This was seeded with his leadership of the "PayPal Mafia," an informal network of technology financiers, engineers, and capitalists dating back to the late 1990s that includes Elon Musk and the founders of YouTube, Yelp, and LinkedIn (Weiner 2021). Among their investments were companies including Facebook, Airbnb, Lyft, Spotify, Stripe, and DeepMind (Google's world-leading artificial intelligence project).

Thiel's vision for progress as an explicitly economically driven force that should be prioritized by societies even at the cost of conventionally protected democratic values echoed eugenic proponents' public assertions from over a century ago. His insistence on economic progress above all echoed the language of turn-of-the-century Wharton Business School economist and future American Eugenics Association president Simon Patten, who asserted bluntly in 1899 the evolutionary force of progress in helping societies to "crush the inefficient." As Patten wrote then, "Social progress is a higher law than equality, and a nation must choose it at any cost. A lack of progress would eradicate the efficient and prudent as certainly as the presence of progress crushes the inefficient and thoughtless. Progress [thus] . . . favour[s] non-moral standards upheld on the one hand by concrete economic rules harmonizing with the immediate environment, and on the other hand with intensive feelings that made men discontented with anything short of perfection" (1899). Thiel's techno-eugenic framework updated Patten's language by emphasizing the

existential threat to an innovation-centered knowledge economy and the cognitive elites who powered it via regulatory states that insisted on protecting public welfare. Thiel's language, by the post-Trump era—as AI-based products increasingly shaped global trade and economic bases—grew more pessimistic. Speaking before an Oxford University audience in 2022, he highlighted the innovation "stagnation problem" that the current democratic establishment had created across a spate of Western nations by continuously attempting to regulate new technological developments, from AI to biotech. Such efforts, he predicted, would "derange our societies" by eventually ensuring a no-growth economy (Thiel 2023). It would impose barriers around the intellectual power of the cognitive elite in the interest of protecting lesser-evolved classes, restraining potentials for technological advancement and inevitably leading to a regression of society and the economy alike.

While easy to dismiss as incompatible, mainstream framings of the knowledge economy that were popularized by late-twentieth-century liberal social sciences and business news outlets shared varied key parallels with techno-eugenic frameworks. Both highlighted the central protagonism and heightened value of new classes of knowledge professionals and cognitive elites, whose novel economic and technological contributions directly powered the knowledge economy, and arguably enabled such positions to advance with little public outcry or intervention. By keeping the public eye trained on the anxieties around new forms of intellectual demands, skills, and capacity knowledge work the new economy demanded of all classes of workers, both could keep attention pinned around the deficiencies of laboring populations, rather than drawing attention to the racially segregating politics of "the knowledge economy" and questions of what interests were creating new pressures to accelerate a push toward knowledge production as an optimized site of profit generation. Such public calibrations projected a natural, rationalized veneer to the rapid transformations underway in the economy, rather than recognizing the state or private sector activity that had enabled a dismantling of regulatory frameworks when it came to technology. They would both lean heavily on knowledge and intelligence as factors that enabled a selective elision of the knowledge economy's racialized impacts and dispossessions. In doing so, they kept the public eye distracted from larger questions of racialized and class-based economic stratifications that had amplified across the decades and that had accelerated with the rise of Silicon Valley disruptors and parallel knowledge economy actors driven by new imperatives to innovate at whatever cost.

To attend to Thiel's pronouncements around the knowledge economy, and the silence that has generally characterized the larger tech industry and digital economy scholars' reactions to texts such as *The Bell Curve*, then, is to confront the techno-eugenic logic of assessment that underpins the rationalization of the contemporary knowledge economy's growth. It is to ask that we attend to the intensified forms of social inequality and race-based stratifications that have grown with it. And it is to recognize the double face—and nocturnal, necropolitical twin (Mbembe 2003, 2019)—of its growth. Such intertwined architectures are what allow Big Tech to operate, on the one hand, as official and even preeminent engines of innovation working under the guise of Western liberalism's highest promise (as much of the popular and scholarly framings of the knowledge economy have suggested), and on the other hand, as entities that can profit by economizing global progress and security for only those prioritized as the most deserving, worthy, and intellectually equipped. More than ever, it is time we diagnose the global condition in which Silicon Valley companies and their data-driven extractions can still perversely be promoted as uniquely scalable engines of global innovation and economic salvation, even in the face of growing structural inequities that have advanced under the accelerations of the knowledge economy.

CONCLUSION

To attend to techno-eugenics' reverberations throughout the contemporary knowledge economy is to recognize the underacknowledged ecologies of illiberal violence and anti-pluralist, xenophobic terrains—sites where "death has nothing tragic about it" (Haritaworn, Kuntsman, and Posocco 2014; Mbembe 2003, 2019) that scholars of necropolitics have recognized as foundational to modern orders—as latent, too, in the contemporary ecology of big data and AI-driven systems. It is to recognize the inseparability of the growth of Western liberalism with the extension of global systems of imperialism, terrains of settler colonial dispossessions, and plantation slavery that decolonial, critical race, feminist, and queer scholars have long explored (Azoulay 2019; Byrd 2011; Byrd et al. 2018; Cacho 2012; Hartmann 1997; Mbembe 2003, 2019; Rosas 2019) as likewise enabling the continuity of spaces where individual rights and values could be officially suspended. Philosopher Achille Mbembe described how such spaces of political exception—central

among them, the colony and the plantation—functioned as the "nocturnal face" of liberal states (2003, 2019) that could be architected away from official sites where civil peace needed to be formally maintained and visible. At these remote sites of exception, however, conditions of unregulated war and violence—exercised outside normative conventions and "obey[ing] no rule of proportionality" (2019, 25)—could give rise to the organized destruction of necropolitical "death worlds." The full functioning of such worlds first requires, Mbembe specified, "on the one hand, a generalized cheapening of the price of life and, on the other, a habituation to loss" (2019, 26). Mbembe reminded readers how often necropolitical sites have emerged, then, not as the antithesis or limit of active democracies but as their hidden twin and underacknowledged double. Ever latent within liberal political orders, they can emerge and come to dominate, not merely once the world can be segmented into realms of the biopolitically useful and useless, but once a generalizing acceptance of and "habituation to loss" has been conditioned.

The sacrificial economy that the contemporary knowledge economy has given rise to, particularly in the age of big data and AI, appears not despite or as the exception to global tech companies' growth. It emerges instead as their offspring, developing through remote, concealed, and seemingly disconnected "sites of experimentation" in the name of preserving Big Tech's public face and protecting the official narrative of Western technology (and big data and AI systems, especially) as the twenty-first century's consummate force of progress, innovation, and high enlightenment.

Media justice organizer Danielle Chynoweth's critique of the technology industry's impact on social services that began this chapter underscores such a lens among social service providers working with populations that would be classified among the undeserving poor. In stark contrast to the official narrative of tech-driven philanthropy extended within business and technology sectors, the emergence and growth of tech-driven venture philanthropy in the late 1990s was celebrated as a remedy for the projected inefficiencies of traditional philanthropy. Pressing for an evolution of traditional philanthropy, venture philanthropy, as Paul Brainerd of Social Ventures Partners put it in a widely circulated 1999 essay, would introduce new "innovative approaches to giving" (Brainerd 1999). During its rise in the early 2000s, as it was being touted as the "new buzz" in business and philanthropic circles (Weiss and Clark 2006), other foundations emerged with funding from prominent technology entrepreneurs. As sociologist Michael Moody found after interviewing varied dot-commers

and entrepreneurs involved in the field in 2007, many proudly and unself-consciously described themselves as "innovation junkies" with "very high expectations" of their investments. And they saw themselves as benevolently bringing the power of tech-based transformation to social service work as a means of improving social sectors' "slow, inefficient, and unproductive" workplace routines (Moody 2007, 341).

While the pitched hype around venture philanthropy has leveled in recent years, the undeniably outsized and still-growing investments and enduring influence of venture philanthropy in nonprofit practice today (Onishi 2015) continues to spur heated debates among nonprofit and social service providers. These debates center around not only what it means to import metric-centered principles—from "return on investment" to "due diligence"—from corporate realms into the center of nonprofit missions. They highlight too what it means to do so with the particular form of innovation-demanding hubris, self-righteous conceit, and disruption-seeking "move fast and break things" mindset that has defined Silicon Valley's approach to innovation in the new millennium. Such unrepentant disruption has proven destructive, especially when it comes to social institutions, from education to the press, to care sectors, and to health and human services. For Chynoweth, that self-assured sense of superiority has made the ordinary violence such logics have wrought upon the populations she serves all the harder to bear. And it has underscored the powerful and continuing salience of the "undeserving poor," and their metrification, as a foundation to tech-centered enterprise in the new millennium. It is a reminder too of the spectrum of positionalities that techno-eugenic proponents could occupy.

Like eugenicists in the early twentieth century that infamously encompassed liberal progressive reformers alongside illiberal xenophobic champions (Leonard 2016), techno-eugenics proves flexible enough to encompass a range of positionalities across technology sectors. Despite their superficial distinctions, they maintained a classificatory logic that urged the need for reform and intervention driven by more evolved and competitive knowledge classes. Heralding an imperative for innovation as an economically and socially evolving force, they amplified and mainstreamed outcries against the "excesses" of the regulatory welfare state and democratic protections. This was enabled by exchanging past references of degradation through racial dysgenics for an emphasis instead on projections of Western ruination through economic stagnation, technological regression, and curtailments of individual choice in a once free market.

Of course, there have been other forms of critical orientations around the obligations of government that aimed to hold political leaders more accountable to the work of securing public welfare and democratic protection. The data work that such actors channeled over generations and the justice-oriented solidarities and intersectional collaborations they fostered to undertake their efforts is the subject of the next three chapters.