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Noah Taylor March 14, 2022

Futureless Futures: Biopower, Catastrophe, and the Tragedy of the New Millennium

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Abstract

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By Noah Taylor

The twenty-first century marks a period of profound contradiction. On the one hand, our lives are subject to unprecedented control, surveillance, and political investment; on the other, our species faces a steady march toward extinction. In placing these two terms side by side, I explore Foucauldian biopower and its complicity in what Mark Fisher calls “the slow cancellation of the future.” I argue that, in the face of millennial threats, biopower has been left with nothing to say, a function of its constituent status within systems of capitalist production and extraction.

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Table of Contents

Introduction

"In the end is my beginning."
–T.S. Eliot, "East Coker"

Since the turn of the millennium, political life has entered a state of profound contradiction. On one hand, politics has never seemed so precarious. Under the threat of new world-historical forces—pandemics, global migration, climate crisis, and their countless compatriots—catastrophe seems to be closing in on all sides. As I write this, we find ourselves in the throes of a pandemic that transcends historical analogues, one that has killed millions, arrested global commerce, and sent the world indoors. It is in these capacities that COVID-19 typifies the shift in global risk assessment toward what I call *millennial threats*: twenty-first-century hazards that emerge at the level of globe, life, and species. On the other hand, the new millennium has also ushered in the unmistakable intensification of power over human life—what philosopher Michel Foucault calls *biopower*. Even as the crises we face appear increasingly insuperable, we also find ourselves under the superintendence of a tightening network of life-affirming techniques, technologies, and practices that address us at the level of population. The twin blazons of public health and security have for many years overflown the deployments of vast and sophisticated systems of surveillance. But the digital age has exponentially magnified the power to watch vast populations and attend to the obstacles that erode their vitality. As such, we find ourselves in an odd and discrepant position, simultaneously at the precipice of a cataclysmic future and as the objects of a proliferating net of surveillance, regulation, and control.

What can we make of this strange contradiction? It seems at the very moment of its ascendancy, biopower has been left with nothing to say: biopolitics sets the terms of the political conversation, but it has lost grasp of life itself. One needs to look no further than the stubborn

resistance to COVID-19 governance, from vaccination to mask mandates, to recognize the deep poverty of modern biopower. The bureaucracies, the institutions, the complexes of experts charged with maximizing life have proven astonishingly ineffective at even the most basic prophylaxis. Expert guidance is itself maligned. Such constitutes not merely "the death of expertise,"[1] as some have put it, but the long slide of the power over life into a state of virtual irrelevance.

This paper explores the modern impotence of biopower in the face of millennial threats. In Chapter 1, I begin by offering an account of modern biopolitics by way of philosopher Michel Foucault. Therein, I speak not only to Foucault's analytic of biopower but to the newfound sophistication and expansiveness biopolitics has found under the auspices of digital technology. The chapter begins with an account of biopower at its apex. It interrogates how life has become the *de facto* object of the political sphere, tracing the historical movement from exclusion to inclusion that made possible the contemporary administration of life. It proceeds to tease apart the two "poles" of biopower Foucault describes in *History of Sexuality, Volume 1* and examine how disciplinary and regulatory techniques have proliferated and transformed in the twenty-first century. The chapter ends with a broad account of biopower's deployment of *quadrillage*—the normative "gridding" that provides the model for biopolitical regulation at the level of the species.

Having sketched the landscape of biopower, I return in Chapter 2 to the question of catastrophe. I begin the chapter with an examination of three particular millennial threats—pandemics, antibiotic resistance, and climate cataclysm. Though non-exhaustive, this cross-section of global risks underscores the species-wide implications of threats to which we

[1] See Thomas M. Nichols, *The Death of Expertise: The Campaign against Established Knowledge and Why It Matters* (New York, NY: Oxford University Press, 2017).

collectively contribute and are collectively vulnerable. I contend that these catastrophic events are not like the eschatological events of old but rather resemble what Mark Fisher calls the "slow cancellation of the future." Millennial threats are less ruptures than they are unswerving declines into the void.

In Chapter 3, I place these two terms—biopower and catastrophe—side by side. I survey how institutions of biopower have proliferated alongside regimes of capitalist expansionism and put these political developments in conversation with Byung-Chul Han's concept of the capitalist death drive. I proceed to trace the historical relationship between biopower and capitalism, examining how the maximization of productive forces has played midwife in the birth of species-threats. I conclude that biopolitics suffers a profound contradiction: that to "make live" today means to "make die" tomorrow.

To conclude my thesis, I sketch the stakes and pitfalls in avoiding catastrophic failure as a species. I assert that the "make live and let die" logic of biopower is woefully incapable of addressing collective threats, and I argue that survival hinges upon finding new modes of organization, drawing inspiration from the Greek conception of *kairos*. The crisis of biopolitics is upon us, but we must recognize it for what it is: the opportunity for a radical reformulation of human life.

Chapter 1: "A History of the Present"

"Knowledge is a cutting thing."
–Michel Foucault, "Nietzsche, Genealogy, History"

We find ourselves in a century of untold power over human life. Elaborate computer systems track our movements, our habits, our biometrics, our history. Algorithms model our behaviors and sculpt our interests. In the West, the so-called "Five Eyes" continue to execute one of the world's most sophisticated mass surveillance programs on their own citizens.[2] In China, the maker of the world's most popular prenatal test harvests genetic data for use on government reconnaissance projects.[3] Everywhere we turn, our lives fall under the microscope of some new machine that seeks a new frame of surveillance, regulation, and control. For the advent of big data, made possible by the computational advancements of the new millennium, has made possible the profound superintendence of how we live our lives. Yet such technology serves only as the latest extrapolation of an old political logic. What Shoshana Zuboff calls our "information civilization"[4] is the apotheosis of a project of normalization and control that emerged some centuries earlier, a historical phenomenon philosopher Michel Foucault calls the regime of *biopolitics*.

The term biopolitics and its relative, biopower, describe a political arrangement seeking to maximize and control human life. Although Foucault did not himself originate the term, his 1976 book *History of Sexuality, Volume 1* greatly expanded upon and popularized it.[5] Therein,

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[2] See: Patrick F. Walsh and Seumas Miller, "Rethinking 'Five Eyes' Security Intelligence Collection Policies and Practice Post Snowden," *Intelligence and National Security* 31, no. 3 (April 15, 2016): 345–68, https://doi.org/10.1080/02684527.2014.998436.

[3] Kirsty Needham and Claire Baldwin, "China's Gene Giant Harvests Data from Millions of Women," Reuters, July 7, 2021, https://www.reuters.com/investigates/special-report/health-china-bgi-dna/.

[4] Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (London: Profile books, 2019), 4.

[5] It should be noted that while Foucault did not coin the term (which Rudolf Kjellén introduced in the first decade of the century), nor was he the first to resurrect it (the Nazis and French neohumanists respectively beat him by some decades), Foucault's method remains conceptually distinct from these earlier iterations. For a detailed view of

Foucault contrasts traditional forms of law and sovereignty—through which power was wielded from above, violently and unilaterally—with a new "life-affirming power"[6] that emerged in the early eighteenth century. Unlike the old repressive arrangements, biopower brought with it new capacities to invest in and intensify life: institutions now had means not only of killing or excluding but "of optimizing forces, aptitudes, and life in general without at the same time making them more difficult to govern."[7] While politics had previously been organized according to *sovereign power*, the right of a monarch to execute lawbreakers, biopower emerged in conjunction with a new right, that "of the social body to ensure, maintain, or develop its life."[8] The corollaries of this right would prove numerous. Public health emerged as a new domain for managing the wellbeing of the populace; national statistics like birth rate and death rate became new indices of a nation's vitality; and a vast new technocracy appeared tasked with overseeing the growing population. Unlike the old domain of the regent's law, which exerted power over life as a negativity (i.e., the deprivation of freedom or of life), biopower was affirmative in its exercise. It opened up new discourses and "positivities" that made possible study, investment, and intervention at the level of life. As such, the formula of power was reversed: the king's right to "make die or let live" was gradually eclipsed by a new relation, the promise of biopower to "make live or cast into death" (*de faire vivre ou de rejeter dans la mort*).[9]

While this life-affirming power brings to bear a wide array of forces, Foucault understands them to be distributed around two conceptual poles. The first, *discipline*, seeks to train the body and maximize its usefulness. Disciplinary power "center[s] on the body as a

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biopower's historical uses, see: Roberto Esposito, *Bíos: Biopolitics and Philosophy* (Minneapolis: University of Minnesota Press, 2008).

[6] Michel Foucault, *The History of Sexuality, Volume 1*, trans. Robert Hurley (New York: Pantheon, 1978), 136.

[7] Foucault, *History of Sexuality*, 141.

[8] Foucault, *History of Sexuality*, 136.

[9] Michel Foucault, *Histoire de la sexualité, volume I: La volonté de savoir* (Paris: Gallimard, 1976), 181. Translation mine.

machine," pursuing "the optimization of its capabilities, the extortion of its forces," and "its integration into systems of efficient and economic controls."[10] As Foucault writes in *Discipline and Punish*, we can recognize in discipline a two-fold equation: simultaneously it "increases the forces of the body (in economic terms of utility) and diminishes these same forces (in political terms of obedience)."[11] For Foucault, discipline can be traced to our points of contact across social institutions, from schools to prisons, barracks to hospitals. This perpetual exposure to systems of routine created a disciplined body both productive and docile, one uniquely conditioned to suspervise itself in the execution of its duties. By contrast, *regulation*, the second pole, takes as its object not the productive, working body but rather the body of the species: "the body imbued with the mechanics of life and serving as the basis of the biological processes."[12] This mode takes not the individual but the population as its operative unit, whose massificatory character necessitates a very different approach to its management. The emergence of regulation coincides for Foucault with the birth of political economy, whose suite of political positivities first let power lay grasp to life. Natality and longevity, mortality and morbidity, the endemic and epidemic—all the assorted sciences of populations became operative lines in the ledger of biopolitics. Indeed, it is through the integration of these two poles of power, discipline and regulation, that the West secured the labor force necessary to carry out the nascent promise of capitalist expansionism. As Foucault observes, the capitalist order was made possible by the "adjustment of men to that of capital" and concomitant "joining of human groups to the expansion of productive forces."[13] As such, biopower brought to life a world of once

[10] Michel Foucault, *History of Sexuality*, 139.
[11] Michel Foucault, *Discipline and Punish: The Birth of the Prison*, 2nd ed. (New York: Vintage Books, 1995), 138.
[12] Foucault, *History of Sexuality*, 139.
[13] Foucault, *History of Sexuality*, 141.

unimaginable inventive capacities, sweeping away the old models of exclusion yoked to the inexorable properties of sovereign right.

In the twenty-first century, novel technologies of discipline and regulation have insinuated a tightening net over human life. On one side, the disciplinary society of discrete practices, directions, and regimentations has proliferated into cyberspace. Traditional loci of enclosure and organization have been supplemented by what Gilles Deleuze calls "forms of free-floating control," which modulate human behavior in a continuous manner.[14] Rather than training bodies, computational technologies train algorithms, extracting from individuals the "numerical language" necessary to intensify and proliferate themselves. Indeed, to speak of "individuals" may even be a misnomer, for as Deleuze wryly observes, machines have capacitated the division of subjects into a network of data points. We must consider ourselves now "*dividuals*," fragmented assemblages of material waiting to be fed into a statistical model.[15] Consider recent advancements in facial recognition software. By applying machine learning techniques to vector geometry, social media companies like Facebook and TikTok have trained facial models on their expansive user bases, extracting biometric information from billions of photos and videos. Models not only can identify individuals but also extract demographic information like age, gender, and ethnicity—pivotal commercial intelligence that is then put up for sale to advertisers.[16] As such, millions of people have had their likenesses scraped without their knowledge and fed into these self-correcting programs, becoming themselves raw material in the expansion of control technologies. In the wake of these technologies, the profile, which Foucault identifies with the medico-juridical functions of normalization in the eighteenth

[14] Gilles Deleuze, "Postscript on the Societies of Control," *October* 5 (1992): 4.
[15] Deleuze, "Postscript," 5.
[16] Niels Wouters and Jeannie Paterson, "TikTok Captures Your Face," *Pursuit*, July 26, 2021, https://pursuit.unimelb.edu.au/articles/tiktok-captures-your-face.

century,[17] has become exponentially more extensive and sophisticated. Profiles no longer need be assembled by court psychiatrists; today, they are compiled by computers that chew through your online presence, your connections, and your communications. Discipline in the twenty-first century thus does not merely cultivate the body but metabolizes it, abstracting its states and processes into the silicon vocabularies of digital superintendence.

Likewise, regulatory technologies have found profound purchase in the age of big data. While discipline turned its gaze from "automatism of habit"[18] to assemblages of "samples, data, markets, [and] 'banks,'"[19] regulation redoubled its investment in popular modulation. As Paul Rabinow argues, biopower today has expanded into a tightly woven network of preventive technologies, charged with "above all the tracking down of risks."[20] At stake increasingly is an extension of biopower Foucault would come to call *security*, the methodical accounting of probabilities and stochastic effects. By Foucault's definition, "The specific space of security refers then to a series of possible events; it refers to the temporal and the uncertain, which have to be inserted within a given space."[21] To bring uncertainty to heel, a vast new apparatus of prevention and prediction sprung up, subsuming the unknown into the world of the probabilistic method. Risk appears not as a particular threat or event but as a metamathematical proposition, the sum of related factors that make an adverse event possible. This apparatus finds instantiation across an array of related fields, but its appearance is perhaps most evident today in the interstices of biomedicine and public health. With the technological advances of the past three decades, from the mapping of the human genome to the growing computational power at

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[17] See: Michel Foucault, *Abnormal: Lectures at the Collège de France 1974 - 1975* (London: Verso, 2003).
[18] Foucault, *Discipline and Punish*, 135.
[19] Deleuze, "Postscript on the Societies of Control," 5.
[20] Paul Rabinow, *Essays on the Anthropology of Reason* (Princeton, N.J: Princeton University Press, 1996), 100.
[21] Michel Foucault, *Security, Territory, Population: Lectures at the Collège de France 1977-78* (Basingstoke: Palgrave Macmillan, 2009), 20.

researchers' fingertips, we have witnessed a growing emphasis on so-called "preventive health"—the proactive identification of "risk factors" contributing to a given health outcome. As Rabinow observes, direct therapies have been "supplanted by an increasing emphasis on a preventive administrative management of populations at risk." By targeting interventions toward these risk-groups, preventive health thus promotes "working on oneself in a continuous fashion so as to produce an efficient and adaptable subject."[22] The suppression of so-called "risk behaviors" operates now as one of the dominant strains of the regulatory *dispositif*.

Let us take one such intervention today: the effort to end HIV in the United States. The HIV/AIDS crisis provides particular insight into the deployment and proliferation of biopower, for it straddles the worlds of sexuality and public health, discipline and regulation. Yet perhaps most importantly, the HIV/AIDS crisis reveals the shift toward new strategies of control and management that define millennial biopolitics. When AIDS was first identified in 1981, common medical practice attributed its rise to the "four H's"—homosexuals, hemophiliacs, heroin users, and Haitians.[23] The disease would quickly become synonymous with these "risk groups," particularly gay men and injection drug users, whose status of social deviance seemed to justify such a mysterious and decadent affliction. AIDS thus entered the cultural imaginary as a plague of the perverse, the manifestation of the social ills endemic to this "community of pariahs."[24] It is perhaps unsurprising then that early public policy toward AIDS assumed a posture of Foucauldian resonance. For Foucault, to "make live and cast into death"; for Reagan, to "look pretty and do as little as you can." As physician Donald Francis explains in his retrospective on the AIDS crisis,

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[22] Rabinow, *Essays*, 99-100.
[23] Jennifer Brier, *Infectious Ideas: U.S. Political Responses to the AIDS Crisis* (Chapel Hill: University of North Carolina Press, 2009), 219.
[24] Susan Sontag, *Illness as Metaphor; and AIDS and Its Metaphors* (New York: Picador, 2001), 113.

> The Director of CDC during those days, Dr James Mason, was also not willing to fight his bosses to protect the public from AIDS. Mason was a conservative appointee from Utah. Years later, as he looked back at the early AIDS years describing his inability to confront the conservative leadership, he stated 'there are certain areas which, when the goals of science collide with moral and ethical judgment, science has to take a time out.'[25]

The directive from the state was simple: stay quiet and let die. Reagan himself would refuse to mention AIDS in any capacity until 1985,[26] at which time 12,000 Americans were already dead or dying of its sequelae.[27] When confined to the domain of gay men and drug users, the mortal was made moral. AIDS brought perceived drag points in the economy of life to the threshold of annihilation, rooting out the perverse amidst the flow of vital forces. As a result, some 700,000 Americans have died of AIDS-related causes since 1981,[28] themselves only a fraction of the 36.3 million deaths worldwide.[29] The disease, particularly in its early days, remains among the most devastating contemporary illustrations of Foucault's warning that the social sciences have made it possible "both to protect life and authorize a holocaust."[30]

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[25] Donald P. Francis, "Deadly AIDS Policy Failure by the Highest Levels of the US Government: A Personal Look Back 30 Years Later for Lessons to Respond Better to Future Epidemics," *Journal of Public Health Policy* 33, no. 3 (August 2012), 297.
[26] Tina L. Perez & George N. Dionisopoulos, "Presidential Silence, C. Everett Koop, and the Surgeon General's Report on AIDS," *Communication Studies* 46 (Spring 1995): 23.
[27] Randy Shilts, *And the Band Played On: Politics, People, and the AIDS Epidemic* (New York: St. Martin's Press, 1987), 20.
[28] "The HIV/AIDS Epidemic in the United States: The Basics." (2021). Kaiser Family Foundation. https://www.kff.org/hivaids/fact-sheet/the-hivaids-epidemic-in-the-united-states-the-basics/#footnote-525108-1
[29] "Fact Sheet – World AIDS Day 2021" (UN AIDS, December 1, 2021), https://www.unaids.org/sites/default/files/media_asset/UNAIDS_FactSheet_en.pdf.
[30] Quoted in Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life*, trans. Daniel Heller-Roazen (Stanford: Stanford University Press, 1998), 3. While this quotation is likely a dramatic retouching of Foucault's own words, which he delivered during a discussion at Stanford in 1979, it remains nonetheless a pithy distillation of his approach to biopower in *History of Sexuality, Volume 1*. For more information, see chapter 1, note 36 in: Jeffrey T. Nealon, *Plant Theory: Biopower & Vegetable Life* (Stanford, California: Stanford University Press, 2016), 127-28.

Yet damage and death are only half the story. To speak only of this "bare" biopolitics glosses over the mass systems of control deployed since the 1980s to combat HIV—a multi-billion-dollar network of surveillance, treatment, and prevention that spans thousands of hospitals, clinics, and care centers. Advancements in medical technology have brought about novel modes of viral suppression, and the availability of pre-exposure prophylactics (PrEP) can effectively occlude one's chance of contracting the virus. These developments, ushered in by a wave of AIDS activism and grassroots political mobilization, speak to the changing landscape of biopower in the twenty-first century. As the hospital and hospice center have been replaced by the pharmacy and the clinic, the thunderstroke of death has receded from view, displaced by new technologies of risk mitigation. Over decades of organizing, activists have found incredible success in pushing the federal government to fund ballooning research and development programs, epidemiologic interventions, and subsidized clinic and housing programs for people living with HIV. Yet these steps, though incontrovertibly positive, also speak to the biopolitical shift toward the subterranean since the 1990s. AIDS, once "the generic rebuke to life and to hope,"[31] has been made a phenomenon at first preventable, and at worst suppressible. In other words, the mentality of AIDS (the death sentence, the moral plague) has given way to that of HIV (the life sentence, the viral agent). The stakes of HIV/AIDS now concern "ways of living rather than certain death,"[32] marking a definitive shift from the binary logic of the Reagan Era (death/life) toward the probabilistic continuum of risks, statuses, and effects. While even today the virus cannot be cured, seropositive individuals can achieve absolute suppression through a regimen of daily pharmaceuticals. And members of groups of "heavy burden"—men who have

[31] Sontag, *Illness*, 112.
[32] Tim Dean, "Mediated Intimacies: Raw Sex, Truvada, and the Biopolitics of Chemoprophylaxis," *Sexualities* 18, no. 1–2 (February 2015): 227.

sex with men, transgender women, African Americans, and intravenous drug users[33]—can obviate their risk of contracting HIV by taking a cocktail of prophylactics and submitting to regular blood tests. As such, the chthonic fears of desire and death have evaporated. Before biopolitics, HIV has become raw material of a dry computational science, one that can relate risk of infection itemized by sexual position, act, and duration, let alone race, ethnicity, and gender.

As we recognize in the discourse of HIV, biopolitics has witnessed a shift in techniques of power toward a massified distribution and prevention of risk. As Rabinow notes, "Prevention, then, is surveillance not of the individual but of likely occurrences of diseases, anomalies, deviant behavior to be minimized, and healthy behavior to be maximized."[34] We see in the HIV crisis how biopolitics has become more inventive and effective in its interventions upon human life, eschewing death in favor of sophisticated mechanisms of inclusion and control. The changing approach to HIV, the concomitant movement of power from exclusion to inclusion of social deviants, mirrors a division of organization that Foucault traces to the late Middle Ages. The old model of leperdom, the casting out of the afflicted "into a vague, external world beyond the town's walls,"[35] has gradually been replaced by a model of inclusive surveillance, discipline, and normalization. This rubric, which Foucault calls the "plague model," maintains a diverse array of technologies charged with "spatial partitioning and control."[36] Think no further than the granular division of HIV serocategories, or the turn toward a model of tracking and tracing those living with the virus. Likewise essential to Foucault's concept of the plague model is the image of *quadrillage,* an untranslatable word that coordinates roughly with the English term "gridding."

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[33] "High-Impact HIV Prevention: CDC's Approach to Reducing HIV Infections in the United States" (Centers for Disease Control and Prevention, August 2011), https://www.cdc.gov/hiv/pdf/policies_NHPC_Booklet.pdf.
[34] Rabinow, 100.
[35] Foucault, *Abnormal*, 43.
[36] Foucault, *Abnormal*, 44.

In French, *quadrillage* evokes both a panoply of oppressive police tactics and the Cartesian partitioning of physical space. Yet for Foucault, it also describes the movement away from an exclusionary binary (leper/nonleper, person/nonperson, HIV-positive/HIV-negative) toward an all-encompassing continuum of control. As Foucault puts it, we must understand this phenomenon as the organizing logic of a society "in which the norm of discipline and the norm of regulation intersect along an orthogonal articulation."[37] The dipole of power undergoes lateral expansion into a vast Cartesian plane, a matrix upon which contingency finds its coordinate expression. Every point of contact with power can be put into discourse and precisely mapped between discipline and regulation, throwing up a new distribution around the norm. To return to the example of HIV, individuals can be captured on the orthogonal grid as a function of their viral load, their condom use, their uptake of PrEP, or their sexual proclivities. Biopower thus opens up new positivities of behavior and identity, points of contact which pin down subjects within the parameters of quadrillage. It is within this matrix that discipline, the normalizing power of the individual, and regulation, that of the population, can work together toward the maximization of productive forces.

While *quadrillage* is hardly a novel phenomenon, it has witnessed exponential intensification since the turn of the millennium. The old deployments of discipline and regulation have achieved once-impossible feats in our new world of digital supercomputing and mass surveillance, technologies under whose auspices Deleuze's "society of control" has multiplicatively proliferated. Yet the sheer omnipresence of biopower lends it also a convenient banality. Discipline and regulation, surveillance and securitization—such techniques are so commonplace that they seem on their face unremarkable. After all, if everyone is watched, what

[37] Michel Foucault, *Society Must Be Defended: Lectures at the Collège de France, 1975-76*, ed. Mauro Bertani et al. (New York: Picador, 2003), 253.

does it matter that anyone is? Indeed, biopower's penetrance into the forces of political life has been so successful that its handmaidens no longer see the need to conceal its inner machinery, nor even to countermand its growing body of critics. One need look no further than Palantir, the big-data technology company made infamous for its federal surveillance contracts. In a 2020 New York Times Magazine exposé of the company, one photograph taken at Palantir headquarters shows four people gathered around a table.[38] From the wall above them, positioned in the dim light like a Christian icon, stares a mournful portrait of Michel Foucault. As Julian Castronovo writes, the message of the ominous wall hanging is clear: "The new all-seeing overlords have read the theory."[39]

For Palantir, as with all institutions of the biopolitical milieu, power need no longer deny its own effects, change its course, or claim some exterior legitimacy for its actions. (After all, it is unsurprising that the implications of Palantir's business model are not lost on a company named for Tolkien's all-seeing stones from *Lord of the Rings*.) Criticism like Foucault's is acknowledged in winking jests, then put aside in the pursuit of further biopolitical proliferation. It is thus that biopolitics appears not only omnipresent but irresistible, even inevitable—the telos of a politics bent toward the optimum. We find ourselves in a world of unparalleled control over human life, foisted to new heights on the tidal wave of a computational revolution. Yet, as we will come to see, biopolitical exponentiation is not a boundless field of limitless potentiality. In the twenty-first century, biopower has run into a series of absolute limits, threats not only to the power over life but the category of life itself.

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[38] Michael Steinberger, "Does Palantir See Too Much?," *New York Times Magazine*, October 21, 2020, https://www.nytimes.com/interactive/2020/10/21/magazine/palantir-alex-karp.html.

[39] Julian Castronovo, "Palantir's Picture of Michel Foucault, or How to 'Discipline and Punish,'" *Brooklyn Rail* May 2021, https://brooklynrail.org/2021/05/field-notes/Palantirs-Picture-of-Michel-Foucault-or-How-to-Discipline-and-Punish.

Chapter 2: Millennial Eschatologies

"Action is pointless; only senseless hope makes sense."
–Mark Fisher, Capitalist Realism

In the eighteenth lecture to his *General Introduction to Psychoanalysis*, Sigmund Freud sketches three "discontinuities"—three epistemological paroxysms—in the history of the human ego. The first coincided with the Copernican revolution, which ripped humanity from its self-appointed place at the center of the universe; the second with Darwin, who "robbed man of his apparent superiority under special creation"; and the third with Freud's own work, "which wants to prove to the 'I' that it is not even master in its own home."[40] Yet as historian Bruce Mazlish argues, Freud's schema overlooks the greatest ego threat of all. Indeed, we find ourselves on the cusp of a *fourth discontinuity*, a moment when humanity must again reschematize its relation to its world: according to Mazlish, we now confront "the discontinuity between man and machine."[41] Mazlish's writing primarily concerned the cybernetic predilections of the 1970s—computerization, artificial intelligence, and man's role as a "thinking machine"—but the ego-smashing rupture he identifies maps even more cleanly onto our contemporary captivation with the end of the world. Machines today do not pose a threat to humans as a social or psychological category but rather as a biological one—as a species. The very technology that has enabled us to conquer illness, build industry, and feed the world has slowly reintroduced elements of the catastrophic into political life. In the face of existential threats, from climate chaos to the collapse of global healthcare, we face down today the most credible hazards to humanity since the atomic premonitions of the Cold War.

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[40] Sigmund Freud, *A General Introduction to Psychoanalysis.* (New York: Horace Liveright, 1920), 247.
[41] Bruce Mazlish, "The Fourth Discontinuity," in *Technology and Culture: An Anthology*, ed. Melvin Kranzberg and William H. Davenport (New York: Schoecken Books, 1972), 218.

That is not to say, of course, that catastrophe itself is an invention of the new millennium. As Renaissance scholar Gerard Passanante has drawn in his book on the subject, catastrophic thinking reflects a materialist proclivity that can be traced back to antiquity. Today, as in the past, "[d]isaster presents the mind with an occasion for questioning its most fundamental ideas about the world (e.g., the providential order of things, God's justice) and for speculating about the nature of hidden causes."[42] The figure of catastrophe both unsettles and persuades, pushing the mind from the realm of sensuous experience into that of *a priori* cause and effect. Yet while catastrophizing has changed little, catastrophe itself has changed much. Unlike the myths of old, millennial eschatologies search for causes in the gulf between man and machine. Gone are the fears of divine retribution and cosmic devastation: the fourth discontinuity has swept away faith as a vessel of catastrophic thought, leaving only the human as the author of its own disaster. Gone too is the assurance of the atomic age that only a handful of world powers would be responsible for the end of days: today, catastrophes not only leave us collectively endangered but arise from our collective activity, from the sum of our carbon pollution, our antibiotic use, and our global commerce. As a result of its new determinants, the catastrophic no longer arises in the affirmative (alerting the Joint Chiefs, pressing the button) but in the negative (refusal to change, perpetual deferral). As such, contrary to the Cold War preoccupation with the *prevention* of disaster, millennial threats demand the active *evasion* of disaster. Humanity must mobilize as a collective to modify, adapt, and (as needed) cease operations contributing to a world riven by catastrophe.

In the absence of such a concerted movement, we face a grim slide into the abyss. Seemingly intractable political problems contribute to a new and ponderous nihilism, what

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[42] Gerard Passannante, *Catastrophizing: Materialism and the Making of Disaster* (Chicago: The University of Chicago Press, 2019), 5.

philosopher Mark Fisher (borrowing from Franco Berardi) calls "the slow cancellation of the future." As millennial threats circumscribe the world of political action, they appear to foreclose on the future itself. The twenty-first century, which once dealt in the futurist tropes of flying cars, cryogenics, and interstellar travel, has instead brought us slowly face to face with the possibility of our own extinction. As Fisher writes,

> While 20th-century experimental culture was seized by a recombinatory delirium, the 21st century is oppressed by a crushing sense of finitude and exhaustion. It doesn't feel like the future. Or, alternatively, it doesn't feel as if the 21st century has started yet. We remain trapped in the 20th century, just as Sapphire and Steel were incarcerated in their roadside café.[43]

For Fisher, what differentiates catastrophe today from that of past eras is the temporality of its negation. From the images of the Biblical flood through those of thermonuclear war, the catastrophic has historically manifested as a rupture, a sudden and seismic upheaval. As Passannante writes, catastrophic thought in antiquity and the early modern period took the form of "a precipitous shift or collapse of scale and perspective…[in] a temporal compression of beginning and end."[44] Yet this model of irruption fails to evoke this millennium's sluggish decline into afuturity. Rather than a "precipitous shift or collapse," twenty-first-century catastrophe follows what Fisher calls the gradual "deflation of expectations,"[45] a decades-long depreciation of human potentiality. Likewise, the future does not collapse into the present, but rather is deferred to the point of escaping it entirely. While the new millennium once promised a posthuman utopian turn, its first decades have revealed only more obdurate threats to the

[43] Mark Fisher, *Ghosts of My Life: Writings on Depression, Hauntology and Lost Futures* (Winchester: Zero Books, 2013), 8.
[44] Passannante, *Catastrophizing*, 4.
[45] Fisher, *Ghosts of My Life*, 8.

prospects of the species. The technology that was supposed to liberate us from our base state has instead only exposed us to greater risk of extinction.

Surveying this broad landscape, we can thus say that millennial threats operate according to four primary logics. First, they *emerge from a contradiction between humanity and technology*. The millennial turn of the catastrophic finds its origins in the technological enterprises of modernity, from which spring newly potent forms of catastrophe. Second, they *operate at the level of species*, posing a totalistic threat to humankind. Third, they *arise from collective activity*, to which all individuals in the globalized world contribute. And fourth, they *contribute to the slow cancellation of the future*. To illustrate these dynamics, I turn to two existential threats that loom large over the twenty-first century: climate catastrophe, which spells the destruction of world ecology; and the collapse of global healthcare, along both the vectors of pandemic threats and growing antibiotic resistance. These examples, while not exhaustive, speak to the stakes of some of our most pressing species-projects and the difficult confrontations they demand.

Climate

The word "catastrophe" today has become practically synonymous with our buckling climate. The attribution is a worthy one, for climate catastrophe threatens humanity from all sides. Extreme temperatures and weather events are expected to devastate world food supplies,[46] and rising sea levels menace the world's cities.[47] Destruction of global ecosystems is not only

[46] S.J. Vermeulen et al., "Agriculture, Food Security and Climate Change: Outlook for Knowledge, Tools and Action," *Climate Change, Agriculture and Food Security Report No. 3* (Copenhagen: CGIAR, 2010).
[47] Gary Griggs, "Is Building Walls around Our Threatened Coastal Cities the Best Long-Term Solution to Extreme Events and Rising Sea Level?," *Coastal Management* 50, no. 1 (January 2, 2022): 75–78, https://doi.org/10.1080/08920753.2022.2006872.

projected to drive 8% of the world's species extinct,[48] but will also pose profound risks to human health.[49] As a truly world-historical concern, global warming will leave an indelible mark on every level of the biosphere, from its geologic features to the creatures that call it home.

The gravity of these implications has generated significant political agitation. In a 2020 survey, 72% of respondents across the world identified a warming climate as a force that will harm them "personally at some point" in their lifetimes.[50] In the "People's Climate Vote," a UN climate survey of 1.2 million people, 64% identified climate change as a global emergency, including significant majorities across all geographic regions.[51] What was once an inconvenient truth now receives extensive public exposure and support, particularly in high-polluting economies in North America and Western Europe. Yet recognition of the catastrophic potentialities of a changing climate have done little to alter the political realities of extraction, production, and pollution. According to the Intergovernmental Panel on Climate Change (IPCC), the world remains on track to hit 1.5° of anthropogenic warming by 2040,[52] the projected upper limit before ecological meltdown. The consequences of an overshoot are far-reaching and catastrophic: ocean acidification, soaring sea levels, drought-induced famine, and mass climate migration. Yet, as researcher Timothy Lenton and his team argue, we may have already reached

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[48] Estimates vary widely as to the expected number, with predicted extinction rates ranging from 0 to 54%. The 8% figure I use here comes from Mark Urban's meta-analysis and is generally considered a conservative estimate. See: Mark C. Urban, "Accelerating Extinction Risk from Climate Change," *Science* 348, no. 6234 (May 2015): 571–73, https://doi.org/10.1126/science.aaa4984.

[49] Like its effects on the ecosystem, climate change poses manifold threats to human health. For a broad overview, see: Anthony J McMichael, Rosalie E Woodruff, and Simon Hales, "Climate Change and Human Health: Present and Future Risks," *The Lancet* 367, no. 9513 (March 2006): 859–69.

[50] James Bell et al., "In Response to Climate Change, Citizens in Advanced Economies Are Willing to Alter How They Live and Work" (Pew Research Center, September 2021): 3.

[51] Cassie Flynn et al., "People's Climate Vote: Results" (United Nations Development Program and University of Oxford, January 2021), https://www.undp.org/publications/peoples-climate-vote#modal-publication-download.

[52] Valérie Masson-Delmotte et al., "Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty" (International Panel on Climate Change, 2019): 6.

a point of critical mass in the acceleration of anthropogenic warming. In a 2019 article in *Nature*, Lenton writes that "the intervention time left to prevent tipping could already have shrunk towards zero, whereas the reaction time to achieve net zero emissions is 30 years at best. Hence we might already have lost control of whether tipping happens."[53] The idea of a "climate tipping point"—the point of no return in our slide toward environmental disaster—has alarmed scientists and policymakers alike. But as the IPCC's steep warming projections make clear, the fear of an imminent climate emergency has done nothing to rein in rising carbon emissions over the past three decades.

Per the first principle of millennial catastrophism, we cannot divorce the slow cancellation of the biosphere from the technological innovations of modernity. As historian John Brooke writes in *Climate Change and the Course of Global History*, humanity first assumed an operative climatological role around the 1870s. This development coincides with what Brooke calls the "Second Industrial Revolution": the "rapid development and deployment of advances in steel and chemicals" which capacitated the "construction of a new urban infrastructure powered in complex ways by electricity, oil, and the internal combustion engine."[54] While pollution growth slowed in the first decades of the twentieth century, buffered by global war and depression, the economic boom of the 1950s supercharged emissions. All told, since 1850, we have witnessed an exponential increase in annual emissions of carbon dioxide (163-fold), methane (13-fold), nitrous oxide (29-fold), and fluorinated gases (15,281-fold).[55] Indeed, the

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[53] Timothy M. Lenton et al., "Climate Tipping Points — Too Risky to Bet Against," *Nature* 575, no. 7784 (November 28, 2019): 595.

[54] John L. Brooke, *Climate Change and the Course of Global History: A Rough Journey*, Studies in Environment and History (New York: Cambridge University Press, 2014), 468.

[55] Calculations mine, using the PIK PRIMAP data set collected by: Climate Watch, "Historical GHG Emissions" (World Resources Institute, 2021), https://www.climatewatchdata.org/ghg-emissions. CO_2 emissions increased from 224Mt to 36.4Gt; NH_4 from 600Mt to 8.05Gt; N_2O from 106Mt to 3.1Gt; and F-gases from 64kt to 978Mt. The PIK PRIMAP estimates are themselves likely a low-ball figure, as they do not consider the impact of land use change and forestry (LUCF).

climatic impact of these emissions has only intensified in the past fifty years. Of the 0.8ºC temperature rise since 1900, 0.6º have been incurred since the 1970s,[56] and temperatures have continued to accelerate into the new millennium.

The technological revolution that industrialized, electrified, and automated our world now brings it to the brink of irreversible disaster. Yet it is the second principle of millennial catastrophe, the collective uptake of extractive technologies, that has made climate change appear a grim inevitability. In 2019, 80.2% of the global energy budget came from fossil fuels, a share virtually unchanged from a decade previously.[57] From Jakarta to Lagos to New York City, polluting hydrocarbons power homes, cars, and factories. One might say that in the Anthropocene, pollution has become a unifying human activity. For Slavoj Žiźek, it is the solidarity in our self-destruction that "open[s] up the prospect of the final exit (collective suicide) of humanity itself." We are left to grapple with only one question: "Is there a last exit from the road to our perdition or is it already too late?"[58]

Žižek's warning identifies not only the instigators of our "collective suicide" but also the implications of an implacable climate crisis at the level of *Homo sapiens*. There is a dark humor to his suggestion that the "wise man" chose to board the first bus to damnation, but his point of analysis provides a crucial insight: as a species, humanity is both author and victim of its ecological carelessness—the third principle of contemporary catastrophe. The philosophical implications of this revelation are manifold. Perhaps most importantly, this contingent relation to climate change dissolves the Cartesian schema demanding the individuation of subjects and objects. We are all, to varying degrees, responsible for climate change; and we will all, to

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[56] Brooke, 464.
[57] "Renewables 2021 Global Status Report" (Paris: REN21, 2021): 33.
[58] Slavoj Žižek, "Last Exit to Socialism," *Jacobin*, July 21, 2021, https://jacobinmag.com/2021/07/slavoj-zizek-climate-change-global-warming-nature-ecological-crises-socialism-final-exit.

varying degrees, continue to be affected by it. In the world of entangled environmental inputs and outputs, the rigid division between subject and object falls away as we find ourselves at once on both sides of the divide. We increasingly think of ourselves not as Cartesian subjects but as a unified Darwinian one—as a *species* deeply embedded in its environment, which both shapes and is shaped by it. As Dipesh Chakrabarty writes, this kind of species-thinking

> may indeed be the name of a placeholder for an emergent, new universal history of humans that flashes up in the moment of the danger that is climate change. But we can never understand this universal. … It is more like a universal that arises from a shared sense of a catastrophe. It calls for a global approach to politics without the myth of a global identity, for, unlike a Hegelian universal, it cannot subsume particularities. We may provisionally call it a 'negative universal history.'[59]

A threat at the level of the human species—that is, the threat of extinction—reintroduces the universal into a world besieged by particularities. Differences in identity, political vision, and personal predilection find a moment of settlement under the threat of species-wide annihilation. Yet as Chakrabarty rightly notes, climate change offers no promise of sublation; there is no triumphant Hegel rising from the depths of our acidifying seas. Disaster, not Reason, now unites us against the self-extinction of the human species.

When one looks to the future of this struggle, climate catastrophe seems at once inevitable and inconceivable. This paradox is a defining characteristic of millennial catastrophism: that disaster both colonizes the imagination and evades it. In light of the dire science, we acknowledge the arrival of a world riven by climate emergencies, but it is difficult to envision what such a world would look like. Climate change speaks to a future that is futureless,

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[59] Dipesh Chakrabarty, "The Climate of History: Four Theses," *Critical Inquiry* 35, no. 2 (January 2009): 221-2.

so foreign to the present that it appears fictive. And the otherness of these cancelled futures seems to paralyze political will, the fourth principle of millennial catastrophe. As Paul Dobraszyczyk writes, "The overwhelmingly future-orientated discourse of climate change is perhaps the principal reason why it has been and continues to be so difficult to find common agreement as to how to act in the face of such fundamentally uncertain futures."[60] That the wages of global warming are catastrophic does little to move the needle when the object of political discourse is a mythical, far-flung future. Philosopher Stephen Gardiner calls this climate myopia "the tyranny of the contemporary,"[61] a political arrangement which obscures and gradually disappears the prospect of futurity. By this account, the exigencies of climate change demand not merely a personal nor global but an intertemporal ethics. Caught in the threshold between present and future, climate change exhibits what Gardiner calls an "asymmetric independence of interests": while later generations have much to lose from their ancestors, the converse is not true, incentivizing present groups to leave posterity under-resourced in exchange for short-term gains.[62] One is left to witness a temporal tragedy of the commons, wherein the present underwrites the ecological decimation of the future. While we struggle to imagine such a fate, the quickening drumbeat of extraction, combustion, and pollution every day hastens its arrival.

Healthcare

There has never been a better time in human history to be ill. With the biomedical innovations of the twentieth century, we find ourselves amidst an unprecedented era of human

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[60] Paul Dobraszczyk, "Sunken Cities: Climate Change, Urban Futures and the Imagination of Submergence," *International Journal of Urban and Regional Research* 41, no. 6 (November 2017): 868.
[61] Stephen Mark Gardiner, *A Perfect Moral Storm: The Ethical Tragedy of Climate Change* (New York: Oxford University Press, 2011), 143.
[62] Gardiner, 166.

resilience and convalescence, leading to a doubling of global life expectancy.[63] A panoply of antibiotics, antivirals, and anesthetics have rendered those diseases treatable that for millennia were received as death sentences. Through active vaccination and sanitation campaigns, illnesses like tuberculosis, tetanus, and measles have virtually disappeared from the Global North, smallpox has been eradicated altogether, and global campaigns now seek the same for polio, Guinea worm, yaws, and malaria.[64] As Susan Sontag writes, the resounding success of biomedicine has cleaved history in two, dividing the bygone realm of the physic and humors from our "era of medical triumphalism." Yet this division is not so definitive as it first appears. Indeed, the exigencies of the twenty-first now call into question our categorical victory over disease and threaten a return to what Sontag calls the "premodern experience of illness." Despite the long strides made over the past hundred years, the imminent collapse of healthcare spells the return to a milieu in which "the progression from being seriously ill to dying [is] something normal (not, as now, medicine's lapse or failure, destined to be corrected)."[65] At stake is the end of biomedicine as we know it and the return of illness as we do not.

Two vectors threaten the foreclosure of our medical horizon, each a millennial threat in its own right. Indeed, both meet the provisions of contemporary catastrophe, yet they strike different pressure points in the body of medical practice. First (and today most immediately felt), pandemic threats menace our globalized world, which remains woefully underprepared for mass outbreaks. As the COVID-19 pandemic has exposed, even diseases with relatively low virulence can decimate health infrastructure, raising terrifying questions about the cataclysmic potential of

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[63] Max Roser, Esteban Ortiz-Ospina, and Hannah Ritchie, "Life Expectancy," Our World in Data, 2019, https://ourworldindata.org/life-expectancy

[64] Robert Keegan et al., "Comparing Measles with Previous Eradication Programs: Enabling and Constraining Factors," *The Journal of Infectious Diseases* 204, no. suppl_1 (July 2011): S54.

[65] Sontag, 122.

more deadly contagions. Second, and perhaps more ominous, the rising tide of antibiotic resistance presages a truly "premodern" turn in how medicine is delivered. As multidrug-resistant organisms proliferate uncontrollably, we face the possibility of a post-antibiotic experience in which once-curable diseases become medically untouchable.

I will proceed to examine both threads of medical catastrophe, but let us begin with the form that is likely more familiar. Three years ago, to speak earnestly of a pandemic threat would have seemed a desperate appeal to alarmism. Yet now the looming threat of pandemics, both present and future, haunt every corner of the medical system. Such a potentiality has been possible since the early days of truly global exchange: the 1918 flu pandemic, for instance, killed more than 40 million people globally within two years.[66] Far earlier, the relation between globalization and contagious disease can be found in the historical record, from the end of the Roman Empire to the catastrophic boudades of medieval Europe and the post-contact Americas.[67] Yet per the technological principle of catastrophe, the locomotive advancements of the late twentieth and early twenty-first centuries have grossly accelerated the interchange of human contagion, creating fast-moving switch points for its spread around the world. In the case of COVID-19, the tight mesh of rapid global transport, both personal and commercial, made possible the exportation of SARS-CoV-2 to every continent within three months of its appearance.[68] By contrast, the flu of 1918, though mysterious in its origins, took nearly a year to appear on every continent, and was only buoyed to pandemic status on the unprecedented global

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[66] Jeffery K. Taubenberger, Ann H. Reid, and Thomas G. Fanning, "The 1918 Influenza Virus: A Killer Comes into View," *Virology* 274, no. 2 (September 2000): 241.
[67] Alf Hornborg, "Beyond the Image of COVID-19 as Nature's Revenge: Understanding Globalized Capitalism through an Epidemiology of Money," *Sustainability* 13, no. 9 (April 29, 2021): 4.
[68] Tigist F. Menkir et al., "Estimating Internationally Imported Cases during the Early COVID-19 Pandemic," *Nature Communications* 12, no. 1 (December 2021): 2.

contact of the First World War.[69] The concept of the pandemic—the disease that threatens all—is indeed premised on the totalistic interconnectivity of human societies, a potentiality actualized in the globalistic projects of the new millennium.

As such, it is impossible to disentangle the pandemic's threat to humanity qua species and the developments in collective activity that have made us susceptible to it. Under the charge of global capitalism, the drive toward interdependence has become the dominant mode of social and economic relations. The incessant integration of new markets into the global economy, the expansion of overseas trade contacts, the internationalization of the supply chain, and the economization of international business and leisure travel facilitate the exchange not only of commodities but of contagion. The intermeshing of human societies has seen such profound success that physical distance from an epicenter ceases to have a protective effect. As Alf Hornborger succinctly puts it, "Everyone thus risks becoming a victim of infectious disease appearing anywhere on the planet."[70] In this landscape, what some have come to call the "virocene,"[71] threats like COVID-19 demand the rearticulation of our conception of the human. The individual can no longer exist in particulate but rather must adopt a kind of species-consciousness, placed in relation to all others in the multibillion-node network of humanity.

But what of the slow cancellation of the future? After all, unlike climate change, pandemics do not move so slowly that they appear invisible. Their mode of cancellation is not gradual and obfuscatory but recursive and undulatory: one wave breaks and disappears, only to be replaced by the next of differential scale and intensity. While climate cancellation takes the

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[69] See: Mark Osborne Humphries, "Paths of Infection: The First World War and the Origins of the 1918 Influenza Pandemic," *War in History* 21, no. 1 (January 2014): 55–81.
[70] Hornborger, "Beyond the Image," 4.
[71] See, for instance: Jude Fernando, "The Virocene Epoch: The Vulnerability Nexus of Viruses, Capitalism and Racism," *Journal of Political Ecology* 27, no. 1 (January 21, 2020).

form of an exponential function (the so-called hockey stick graph), pandemic cancellation assumes a sinusoidal shape, unsettling the future with ripples of infection that run beyond the rim of the horizon. To borrow a phrase from Ward Churchill,[72] there is nothing "post" about pandemics, which will continue to kill, maim, and batter us well into the perceivable future. For COVID-19, new variants, policy changes, and travel events continue to trigger ripples of infection, which render impossible a conception of what is to come that resembles the security of the past. It is from under this shadow that calls to end the pandemic have been gradually supplanted by those to assume a "new normal," in tacit recognition that past and future remain forever unreconcilable. The "new normal" that doctors speak of hangs over a world riven by the virus, albeit with greater capacity to treat and protect those who will continue to be infected. That we cannot expect the future to live up to the past is one tragedy among many of a pandemic that seems to have colonized the future before we could even arrive.

The threat posed by antibiotic resistance, the other vector jeopardizing biomedicine, brings about a similar effect, albeit by a different logic. Since the discovery of penicillin in 1928, antibiotics have become a mainstay of medical science, inaugurating a new era of survivability for diseases that for millennia had killed indiscriminately. The antibiotic revolution precipitated a 23-year extension of the average human lifespan and marked a switch point by which disease burden shifted from communicable to non-communicable disease.[73] Yet while antibiotics continue to save millions of lives annually, their widespread uptake undermines their future efficacy. Scientists have for decades warned of the looming threat of multidrug-resistant infections, bacteria that have evolved to withstand an array of antibiotic regimens. The rise of the

[72] See: Ward Churchill, "There Is Nothing 'Post' about Colonialism: On the Continuing Reality of Colonization and the Implications of Terminological Denial," *Counterpoints* 430 (2012): 11–38.
[73] Matthew I Hutchings, Andrew W Truman, and Barrie Wilkinson, "Antibiotics: Past, Present and Future," *Current Opinion in Microbiology* 51 (October 2019): 72.

pathogenic "resistome" threatens to erase all progress made in the treatment of common infections, returning us to a premodern medical model in which diseases strike terribly, suddenly, and untreatably.

Like all millennial threats, the threat posed by antibiotic resistance arises from the contradiction between humanity and its technology. In this case, the widespread application of antimicrobials is the very condition necessary to render them impotent. The paradox is a perplexing one: the more one makes use of this life-saving technology the less useful it will be in the future—an inefficacy underwritten by the forces of cellular evolution and natural selection. We can already see the deleterious effects of a resistome that has for years steeled itself against common antibiotics. In 2019 alone, an estimated 1.3 million people died of an antibiotic-resistant infection, with a further 3 million deaths involving a resistant co-morbidity.[74] Deaths from antibiotic-resistant infections are expected to rise only more precipitously as common microbes evolve to evade current therapeutics. The risk is clear: in a world without antibiotics, illness will reactivate as a catastrophic event.

A post-antibiotic future is only possible in a world of feverish norms of prescription. Over-prescription remains the primary driver of resistance worldwide, albeit across a constellation of different settings and points of application. Among doctors, antibiotics are estimated to be inappropriately administered between 30 and 50% of the time, involving either unnecessary or over-extended prescription of a drug regimen.[75] As Alexander Fleming, the inventor of penicillin, once predicted, the availability of antibiotics has effected "an era … of

[74] Christopher JL Murray et al., "Global Burden of Bacterial Antimicrobial Resistance in 2019: A Systematic Analysis," *The Lancet* 399, no. 10325 (February 2022): 629.
[75] Bilal Aslam et al., "Antibiotic Resistance: A Rundown of a Global Crisis," *Infection and Drug Resistance* Volume 11 (October 2018): 1648.

abuses."[76] Yet the tendency toward over-prescription is not specific to human health. The biggest driver of antibiotic resistance does not come from the clinic but the factory farm, where antibiotics have become a popular prophylactic to maintain animal health in overcrowded surroundings. Such a practice is particularly insidious due to the crossover of human and epizootic diseases, yet it remains exceedingly popular. By 2030, the most populous countries in the world are projected to see a 67% increase in agricultural antibiotic use, which often involves interspersing medication into troughs and feed containers.[77] Through our demand for cheap meat and antibiotic panaceas, we collectively underwrite medicine's premodern future.

The end of the antibiotic age promises to be devastating, yet much like the threat of our changing climate, it is shielded by an innocuous gradualism. From an evolutionary perspective, the obsolescence of antibiotics is guaranteed at the moment of their mass uptake, a foregone casualty of evolutionary pressures that push unswervingly toward resistance and survival. Yet at the current moment, when antibiotics remain largely effective and immensely popular, the growing impotence of these life-saving medications is almost impossible to reckon with. After all, the threat of microbial resistance unfolds at the speed of evolution itself. Its slow tempo evades macroscopic scrutiny until the moment when antibiotics themselves begin to falter, at which point it is already far too late to act.

In this sense, antibiotics are perhaps the fittest prototype of millennial catastrophism, whose technological contradictions initiate a slow roll toward the futureless. The stakes could not be higher. As Franco Berardi writes, "We are on the extreme promontory of the centuries,"[78] a cloudy vista onto an uncertain future. Catastrophe flares up everywhere, in systems that were

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[76] Rakesh Kumar, "Need for Rational Use of Antibiotics," *International Journal of Medical and Dental Sciences* 6, no. 2 (July 1, 2017): 1454.
[77] Aslam, "Antibiotic Resistance," 1646.
[78] Franco Berardi, *After the Future*, ed. Gary Genosko and Nicholas Thoburn (Oakland: AK Press, 2011), 129.

once thought absolute conquests of risk and nature. We can say with certainty that the new millennium has not, as Bruce Mazlish predicted, unified humanity with its machines. Instead, it has driven one to question the other, as the technological innovations of the past hundred years pry open catastrophic fault lines that threaten the species at large. Instead of a posthuman epoch in glass and chrome, the twenty-first century has emerged as a moment of unique precarity, cataclysm, and existential doubt.

Chapter 3: Paradoxes of Power

"Production increasingly resembles destruction."
-Byung-Chul Han, Capitalism and the Death Drive

In the past two chapters, I have laid out the two distinctive phenomena that define millennial politics. On the one hand, human life has never been so actively integrated into systems of power, which invest it with productive potentials and docile inclinations. Yet on the other, human life has never faced such profound challenges at the level of sheer existence. We find ourselves at once subject to the intensifying scrutiny of biopolitics and thrown onto the threshold of catastrophe. The paradox is unmistakable: at the moment of the greatest threat to human life—indeed, the threat of species-wide annihilation—biopolitics has been left with nothing to say. What can explain this troubling inconsistency?

The answer demands we return both to biopolitics and catastrophe. On their face, the two might be expected to operate in antipodal arrangement: biopolitics seeking to minimize risk to human life, while catastrophe operating in a field of risk maxima. As I remarked in Chapter 1, Foucault's conception of security explicitly betrays this opposition, with biopower's emphasis on risk as an open mathematical function. Political economy, by Foucault's account, was charged with minimizing uncertainty, particularly regarding adverse events like famine and plague. But why then has this "estimate of probabilities,"[79] which saw such historical success in reducing risk and maximizing popular vitality, failed so miserably before the threats we face today?

One simple answer might appeal to the aleatory. Perhaps the world has simply become more random, more wanton, more ungovernable, not from any arrangement of power but (to borrow from Nietzsche) from "the iron hands of necessity which shake the dice-box of

[79] Foucault, *Security, Territory, Population*, 20.

chance."[80] Yet this explanation resorts to a fatalistic ahistoricity. It assumes as Gospel truth that which we have already debunked: namely, that the catastrophic stands causally distinct from the world of human affairs. Millennial threats are, by their very nature, anthropogenic; they emerge from the mass technological expansions of the past two hundred years, brought into the fold by our collective activity. They do not emerge absent from power—as human-made, they too proceed from it.

This insight reveals a startling contradiction in the relation between catastrophe and biopower. The original model we considered postulates an antagonistic association between the two: biopolitics seeks to minimize catastrophe, and catastrophe upsets the order of biopolitics. Yet this simple dyad obscures the causal logic inherent to their relation. Strangely enough, biopower does not merely seek to contain catastrophe but it also actively *manufactures* it. Like an algae bloom whose proliferation only to poison itself, the biopolitical system, with its perpetual investment in productive life, now founders amidst its own runaway success. We find evidence of this strange paradox at the origins of biopower. The capitalistic endeavors that demanded the invention of disciplinary and regulatory institutions now themselves pose the greatest threats to human life: factories, mines, and oil rigs poison the earth; international commerce spreads infectious pandemics; and industrial hospitals are producing the next generation of superbugs. These effects do not evade biopower; rather, they emerge from it.

Such irony was not lost on Foucault. In *History of Sexuality, Volume 1*, he writes presciently on the contradiction between the catastrophic and a world of intensifying biopolitical control:

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[80] Friedrich Nietzsche, *Daybreak: Thoughts on the Prejudices of Morality* (Cambridge: Cambridge University Press, 1997), 81.

> It is not that life has been totally integrated into techniques that govern and administer it; it constantly escapes them. Outside the Western world, famine exists, on a greater scale than ever; and the biological risks confronting the species are perhaps greater, and certainly more serious, than before the birth of microbiology. But what might be called society's 'threshold of modernity' has been reached when the life of the species is wagered on its own political strategies.[81]

Writing in 1976, Foucault could not have anticipated the existential threats humanity would face in the new millennium, but his description speaks strikingly to the stakes of a politics that has become increasingly consonant with the species' survival. He is correct to identify the mounting risk to humanity as a biological category, but Foucault's analysis falters at the level of causality. It is not so much that life "escapes" biopower to make way for famine, war, and death; rather, the greatest threats to the species are those that arise from under the rubric of biopolitics—the millennial threats made possible by harnessing *en masse* humanity's vital potentialities.

We can understand this paradox best by considering the rationale for the development of biopolitical control. Biopower emerged, per Foucault's account, foremost as "an indispensable element in the development of capitalism," a political arrangement that could meet industry's new demands for productive forces. Discipline allowed for "the controlled insertion of bodies into the machinery of production," while regulation achieved "the adjustment of the phenomena of population to economic processes."[82] On one side, the system of production was ensured a constant influx of new bodies whose labor power was keyed to the expansion of industry; on the other, the labor system could guarantee the docility of the workforce and maximize the value extracted from their labor time.

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[81] Foucault, *History of Sexuality*, 143.
[82] Foucault, *History of Sexuality*, 140-41.

It is thus impossible to extricate the techniques of biopower from the capitalist project that necessitated their invention. Without biopolitics, industrial capitalism would have failed to achieve critical mass, falling short of its need for a productive and infinitely expansive labor force. By cultivating life and training the body for the toils of industry, capitalism could continue to meet its own growth imperative, the relation which, as Marx describes it, "makes it constantly necessary to keep increasing the amount of the capital laid out in a given industrial undertaking."[83] While biopower has vastly expanded in scope since the early days of industrial capitalism, this imperative remains a central term in its operative logic. As I write in Chapter 1, new technologies of surveillance and risk prevention ensure that our lives are more susceptible than ever to biopolitical organization and investment. Yet these forces no longer merely funnel human potentialities toward the means of industrial production. In the Internet age, machine learning models also open up new channels of consumption, chewing through our online data and creating increasingly sharp profiles of our needs and wants. Every online forum doubles as a marketplace for wares, precisely generated in accordance with your digital footprint. Adorno and Horkheimer's warning of capitalism creating "eternal consumers"[84] finds vindication in the age of digital biopower, which captures and catalogues our consumptive predilections in a cybernetic *quadrillage*. As capitalism has expanded from a culture of production to one of consumption, so too has the rubric of biopolitics.

The catastrophes of capitalism are thus also the catastrophes of biopower. Within a system whose object is the maximization of productive forces at any cost, millennial threats have come to the fore as an unfortunate and unanticipated byproduct. As philosopher Byung-Chul Han

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[83] Karl Marx and Friedrich Engels, *Capital: A Critique of Political Economy* (New York: Random House, 1906), 649.
[84] Max Horkheimer and Theodor W. Adorno, *Dialectic of Enlightenment: Philosophical Fragments* (Stanford: Stanford University Press, 2002), 113.

writes, we find ourselves amidst "a frenzy of production that seems like a frenzy of death."[85] While new strategies have emerged to extract maximum value from global catastrophism (a trend popularly referred to as"disaster capitalism"[86]), these remain only a small-scale adaptation to a radical and existential problem. For Han, capitalism's implosive Ratio can only be described in Freudian terms, as the neurosis of a system that death both terrifies and enthralls:

> Capitalism is obsessed with death. The unconscious fear of death is what spurs it on. The threat of death is what stirs its compulsion of accumulation and growth. This compulsion drives us towards not only ecological but also mental catastrophe. The destructive compulsion to perform combines self-affirmation and self-destruction in one. We optimize ourselves to death.[87]

While Han's writing takes climate change as its point of departure, the lines he sketches between capitalism, catastrophe, and biopolitics have resonance for all species-threats. The deep contradiction of capitalism he identifies—the drive to "optimize to death"—emanates from an essentially biopolitical calculus. Capitalism aligns itself wholly against death. Yet whether with fossil fuels or antibiotics, the drive to save life, to supersaturate it with potentiality, is the very impulse that puts life at the greatest risk. As Han observes, capitalism produces a "paradoxical death drive: it deprives life of life."[88] In pursuit of the fantasy of limitless accumulation, expansion, and potentiality, humanity has only succeeded in thrusting itself onto a newly precarious threshold.

With the closure of the millennial horizon, the implications of the capitalist death drive have become unmistakable. In Chapter 2, I argue that millennial threats stand apart from prior

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[85] Byung-Chul Han, *Capitalism and the Death Drive*, trans. Daniel Steuer (Medford, MA: Polity Press, 2021), 1.
[86] See: Naomi Klein, *The Shock Doctrine: The Rise of Disaster Capitalism* (Toronto: Knopf Canada, 2007).
[87] Han, *Capitalism and the Death Drive*, 8.
[88] Ibid.

catastrophic phenomena in part because they arise from collective human activity. The "slow cancellation of the future" Fisher warns us of becomes particularly alarming with the revelation that it is a species-wide project, a venture to which we all—through our carbon footprint, participation in global trade networks, antibiotic use, etc.—contribute. At root, millennial threats are the wages of a system of global capitalism that sets its sights on endless expansion. Biopower promised a diligent and self-propagating workforce, and the seemingly inexhaustible bounties of nature made the dream of unlimited growth seem within reach of capitalist development. As Michael Hardt and Antonio Negri note, nothing was safe from this impulse toward metabolization: "Everything outside the capitalist relation—be it human, animal, vegetable, or mineral—was seen from the perspective of capital and its expansion as nature."[89] Yet the millennial moment has unmasked these illusions. Through the inexorable march of pollution and extraction, mass production and mass consumption, capitalism has run into stumbling blocks it cannot evade or subsume. The system has given birth to its own gravediggers, threats not only to the maximization of profits but to the continuity of humanity itself.

In this context, we can begin to understand biopower's impotence in face of millennial threats. As Foucault tells us, "For capitalist society, biopolitics is what is most important, the biological, the somatic, the corporeal.''[90] Yet regulation and discipline, even supercharged in an era of digital computing and machine learning, cannot redress the base contradictions of the system from which they arise. Climate change, pandemics, and antibiotic resistance leave biopower with nothing to say, not because they somehow supersede it but because they are the byproducts of the system that made biopower possible. Neither discipline nor regulation can escape the politico-economic structure in which they are embedded, an epochal world system

[89] Michael Hardt and Antonio Negri, *Empire* (Cambridge, Massachusetts: Harvard University Press, 2000), 270.
[90] Michel Foucault, "La naissance de la médecine sociale," in *Dits et écrits* (Paris: Gallimard, 1994), 3:210.

bent on infinite self-enlargement. As such, biopower, capitalism's greatest political innovation, now can only accelerate cataclysmic loss of life. By maximizing vital forces in the furtherance of capitalism's fatalist expansion, biopower preserves in the present to destroy in the future. In Han's words, it acts as "a simulation of vitality that conceals a deadly impending catastrophe."[91]

To an extent, the complicity of biopower in cancelling the future is obscured by its ostensible techniques of disaster mitigation. I would be remiss to pass over the many deployments of biopower that seek to prevent future cataclysm, however perfunctory and inadequate they may be in effect. Such techniques have been thrown into particularly stark relief in a time of global pandemic, which perhaps best exemplifies the poverty of biopower before millennial threats. Mask and vaccine mandates have reactivated old disciplinary techniques, while complicated quarantine and isolation procedures promise to protect not only one another but the entire species body. Yet in spite of the most massive public health mobilization in history, COVID-19 remains at large, and millions lie dead. The system of global capitalism that made the pandemic possible remains standing, and the inequalities in welfare and livelihood it countenanced leave us vulnerable to further variants—potentially of far greater virulence or vaccine evasiveness. And with the virus, there is no effective end to biopower. While the most effective biopolitical regimes, such as that in China, have instituted draconian restraints to limit the spread of the virus, their low infection rates leave them immunologically unfortified for future waves. Per Han's initial paradox, even biopower successfully exercised leaves us optimized for death.

The threats immanent to the capitalist order have led humanity to an unsightly precipice. The slow cancellation of the future, rather than finding opposition in the biopolitical regime, has

[91] Han, *Capitalism and the Death Drive*, 1.

seen only intensification and exponentiation from within it. The powers that be, the institutions of collective security, the custodians of technocracy—all remain mired in a system bending and breaking under the weight of its own contradictions. Such revelations make the future appear only more hopeless: If the power over life is complicit in catastrophism, are there are no guardrails to keep us from hurtling off the cliff? And if the end of biopower too is death, then what political arrangement is left to rehabilitate the future? The answers to these questions appear at first bleak. As the past two decades have made clear, we cannot count on the biopolitical system to reform itself or set right its foundational contradictions. The problems we face, the fathomless threats to humans as subjects and humanity as a species, have magnified the incompetence of contemporary governmentality and the poverty of biopower as a truly life-affirming system. Despite its growing sophistication and promises of collective security, biopower remains a conspirator—not an ally—in the drawn-out negation of human posterity.

Coda

"Not fare well,
But fare forward, voyagers."
–T.S. Eliot, "The Dry Salvages"

The obstacles have never been higher, and neither have the stakes. Today, we face down the most credible threats to *Homo sapiens* in our history—threats that are not only probable but certain, unfolding leisurely before our eyes. Given the state of affairs, it is difficult to resist a kind of fatalist catastrophism: the future is cancelled, Judgment Day has arrived, and we are all to blame. Yet this catastrophism only takes us so far. For, without some form of aspiration or objective, the catastrophizer must arrive at a point of arrest, of quietism. For some, "There is nothing to be done; I can only lay down and rot." For others, "There is nothing to be done; I shall carouse in the ashes." Whether it tends toward quiescence or hedonism, millennial catastrophism too often incites the same abandonment, the same rejection of political will. It invites us to turn inward and shut out the world, redirecting our nervous energies toward the carrion comforts of raving and wallowing.

Yet this fatalism is a dangerous illusion. In truth, we find ourselves not at a point of arrest but one of active mutability, a moment at which the boundaries of the possible are at their weakest. The old chestnut holds true that in the midst of every crisis lies great opportunity. As the future slowly collapses inward, it opens up a new lacuna, a new field of human action and potentiality. The return of catastrophe has made radical reinvention possible.

To the extent that modern catastrophism renders obsolete biopower's grid of intelligibility, it has also brought with it a moment of *kairos*. Unlike in English, Ancient Greek had two conceptions of time: *chronos* (χρόνος), describing ordered, sequential time, and *kairos* (καιρός), describing time as an event or proper moment for action. It appears in Christian

theology as the seizing of a divinely ordained time,[92] or as the moment of heavenly consummation;[93] yet in the twenty-first century, *kairos* appears in the tear opened up by the catastrophic. The threat of annihilation, whether by superbugs or rising sea levels, has pushed us to the brink of a radical reformulation of our political categories. In the shadow of annihilation, what is possible can—and must—be radically reimagined.

We do not yet know what form such a world could take. At the moment, the forces of arrest and abandon continue to obscure the horizon of possibility. As Mark Fisher so poignantly notes, it remains easier to imagine the end of the world than the end of capitalism,[94] to which I append also the end of biopower. It is far too easy in the face of existential despair to succumb to sweet nihilism, or to busy oneself with the management of mundanities. Yet no matter the difficulties, we must continue to push, reimagine, and reorganize. In the millennial moment, we must seize our moment of *kairos* and turn the catastrophic to the advantage of humanity. The old way, which for hundreds of years has sought to maximize the human as a productive subject, is in crisis, yet its death pangs herald a rewriting of what it means to be human: in this new crucible, we are either tempered or destroyed. This is our last exit, our last chance; either we choose liberation or the long slide into the void.

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[92] See, for instance, Romans 13:11. "And that, knowing the time, that now it is high time (*kairos*) to awake out of sleep: for is our salvation nearer than when we believed."
[93] Mark 1:15: "And saying, The time (*kairos*) is fulfilled, and the kingdom of God is at hand: repent ye, and believe the gospel."
[94] Mark Fisher, *Capitalist Realism: Is There No Alternative?*, Zero Books (Winchester, UK: Zero Books, 2009).

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