INTRODUCTION

Toward a Theory of the Border Technopolitical Regime

Longtime computer and tech enthusiast Steven Levy was impressed when a Samsung virtual reality headset immersed him in a digital world that simulated the exact view he enjoyed in real life. The headset was part of a surveillance system called Lattice, an artificial intelligence, sensor fusion platform with networked sensor towers and small unmanned aerial systems collecting, processing, and communicating data. The Texas desert valley appeared in virtual form, transcoded into data processed by the platform. Three dark gray rectangles called attention to a "Person 88%," another "Person 93%," and a "Car 91%" (see figure I.1).[1] The real-life "exact view" was enhanced, reconfigured by statistical processes assessing the humanity of entities in the desert landscape. Information processing parsed out the barrage of environmental data, separating human from nonhuman and making the human a target for potential removal from US territory. The demonstration set up by Anduril Industries was meant to highlight how the solution to the perennial problem of border control came down to data and information technologies. A haunting threat in the borderlands continued to be addressed through new infrastructural foundations that never quite stop the danger or deliver on their promise. Trust in technological solutions persists as an unsatiated fantasy in the will to power.

The matter of "the border" is as much a technological question as it is a cultural one. Stories give shape to the kinds of material arrangements

FIGURE I.1. Lattice system identifies people, vehicles, animals, and other nonhuman phenomena. Source: Anduril Industries.

through which borders are made, just as material arrangements embody and pursue political objectives and make possible the performance of distinct stories. Anduril Industries takes its name from Aragorn's enchanted blade in the fantasy novel series *The Lord of the Rings*. Anduril is a sword that defends the world from darkness, from the evil forces of Lord Sauron, from orcs and trolls—recurrent literary tropes of a racial worldview. Technologies developed by Anduril are meant to protect "the world of men"—a world where humanity is narrowly coded through the alabaster imagination of J. R. R. Tolkien.[2] According to CEO Brian Schimpf, Anduril Industries developed the Lattice system to be a "smart wall" to "get information in the hands of [US Border Patrol] agents."[3] Even though borders as walls and fences take precedence in most debates, Border Patrol officials and their corporate allies know they are not the end-all-be-all of border enforcement. They believe that agents need "situational awareness," understanding borderland conditions in time and place to better respond to them. Just like Anduril, the "Flame of the West," stood between "the world of men" and the racialized dangers from the East, the networked platform also produces geopolitical borders. And it does so through data. It is an information regime drawing boundaries around bodies classified as threats to the US na-

tion and making possible practices of immobilization like apprehension, incarceration, and deportation in the name of security.

Anduril Industries' attempt to deploy information technology to "fix" the problem of control of the border is but the latest attempt to update an infrastructure that has been in operation for almost half a century. Smart walls, virtual walls, and smart fences are emblematic of what I call the "cybernetic border": a regime centered on data capture, processing, and circulation in the production and control of the boundaries of the nation. In the 1970s, the Border Patrol installed an electronic fence that combined ground sensors, computers, and radio communications. And just like Lattice, statistical analysis processed sensor data to determine the nature of its trigger. Known as an intruder detection system, the electronic fence labeled "unauthorized border crossers" as "intruders" and menaces to the nation. Apprehending and removing intruders were some of the political objectives coded into the electronic fence.[4] Anduril's Lattice system, on the other hand, avoids judging its target by recognizing it as a "Person," even if their full humanity is reduced to a statistical probability.[5]

The Cybernetic Border offers a sustained examination of unmanned aerial systems (UAS), ground sensors, and other information technologies deployed in border enforcement during the second half of the twentieth century. These artifacts, like walls and fences, not only help maintain the demarcation of national boundaries, but they also create them through their relation to operations. Information technologies are operational because they play key roles in organizing on-the-ground efforts by actors. They allow border enforcement operations to be multisited, concerted, dynamic, and interconnected.[6] Operational technologies speak to the "datafication" of border enforcement. Inasmuch as they funnel unauthorized border crossers into more remote desert landscapes monitored by the information infrastructure of the Department of Homeland Security (DHS), walls and fences can be said to be a part of the cybernetic border. But border barriers have their own distinct histories and complexities—as both material and symbolic artifacts.[7] By investigating operational technologies, this book interrogates the epistemological and procedural relations of the cybernetic border and their investments in information.[8] The cybernetic border is made through and makes possible relations between information and racial formation; information is fundamentally a boundary-making enterprise without which geopolitical borders could not exist. By opening the cybernetic black box, the book shows the border politics of the empire-nation, of industry, and of the academy.

One of the entry points to the operations of the cybernetic border is the category of "the intruder"—the target of Lattice and its antecedent the "electronic fence." The intruder embodies military logics and is used by actors in government, the press, and the technical community. Intruders are irrevocably entangled with "enemies." They are surreptitious, interceding subjects that cross the boundaries of self-determination and undermine the capacity of an Other to exercise their sovereignty. The intruder hails a defensive subject, a figure struggling to preserve and maintain their existence. It is this struggle that philosopher Achille Mbembe finds at the heart of what he calls "the society of enmity." For Mbembe, contemporary life is characterized by the ceaseless pursuit of forms of exclusion and hostility and by a fight against an enemy. This ceaseless pursuit is built on a drive, an energy, a desire directed toward one or several objects. "Since in reality this object has never existed—does not and will never exist—desire must continually invent it."[9] Enmity is traversed by the principle of race, creating distinctions attached to a body and a group of bodies. It solidifies human difference as oppositional relations that stigmatize, exclude, eliminate, or physically destroy a human group.[10] This movement to invent enemies is at its core a mode of assembling relationships within imperial formations. These are relationships that can be described by following the robust materialities that underpin them.

Both the Lattice system and the electronic fence are part of a long history of technological fixes that don't quite deliver on their promise to control the border. But they do succeed in recording unauthorized border crossers as threats to the nation. They are effective in embedding these populations as targets of systems designed to apprehend and remove them—systems that prescribe their exclusion on the basis that they are transgressors of order and dangers to the rule of law. They are enemies to be eliminated. And just like the enchanted sword's namesake, Anduril works to protect "the world of men."

The use of sensors, computers, and drones for border enforcement reveals how US government officials, Border Patrol agents, and technicians rely on data as keys to rein in the persistent problem of governing the border—which is to say, to exert control over the mobility of racialized populations. This book asks: What kind of political project animates infrastructures of information? And conversely, how do informational infrastructures shape political projects? Against whom is this project leveraged? Who or what is protected when informational logics of differentiation are entangled with imperial practices of exception?

The Cybernetic Border tracks two main and interrelated processes. The first deals with how border enforcement in the United States, itself a central

practice in the making of the nation, relies on identifying a threat against which a range of techniques and devices must be leveraged. I show how US government officials, politicians, technicians, and the technologies they create have targeted ethnic Mexicans, both as individual subjects and as a category, since the mid-twentieth century by treating them as intruders and enemies. As the end of the Cold War slowly metamorphosed into the War on Terror, ethnic Mexicans were joined by new targets from the homogenized spaces of Latin America and the Muslim world. The making of the US nation requires the production and targeting of a racialized enemy against whom to construct the imagined community. This has led to the creation, maintenance, and proliferation of complex infrastructures around those deemed to constitute an existential threat to the nation.

Second, I show how the construction of a "cybernetic border" became central to US immigration and border enforcement since the mid-twentieth century. US government officials and technicians reimagined and reorganized border and immigration enforcement through the language and techniques of the science of cybernetics, which privileged the role of information in the existence of complex systems. These actors made data control and communication integral to surveilling the national border. Border Patrol agents have used devices like ground seismic sensors, computers, cathode-ray tubes, and drones to transform unauthorized and surreptitious border crossings into sensible data. These data shape the behaviors of agents by organizing their day-to-day operations; they inform where, when, and how agents will intervene. Data-centered entities then produce the nation as a bounded, territorial space, and they demarcate the nation's boundaries by policing bodies prescribed for exclusion.

In tracing out these two processes, this book tells the history of how ideas about communication and control shape the practices of and build out border enforcement and settler colonial structures of feeling informed by the US frontier and its racial politics. The first three chapters of the book grapple with how people in government, the military, and defense employed technologies to institute a semblance of control on and over the borderlands. These chapters track historical associations between actors, ideas, and technologies across corporate and government records, promotional documents and films, technical reports, news reporting, and surveillance footage. The range of materials assembled to constitute the border and its populations and to subject them to control highlights a technoaesthetic dimension to the cybernetic border. The fourth chapter is devoted to studying how activists and artists have sought to challenge these efforts to arrange and order

human sensory experience of the border. By expressing their dissent through aesthetic projects, they create an opening to reimagine the US-Mexico borderlands with and against the racial politics of national boundaries.

Borders as Technoscientific Struggles

The territory of the US-Mexico border is not a fixed area with neatly defined boundaries; rather, it is a never-ending process, made and remade, shaped and shaping the history of US empire. *The Cybernetic Border* builds on a robust, interdisciplinary scholarship studying the southern geopolitical boundary to argue that the border needs to be understood as both a site of struggle and a sociotechnical assemblage. The border is a space as well as an amalgam of artifacts; it is a field of networked materialities constituted by relations, devices, institutions, humans, practices, ideas, flora, fauna, and topographies mediating flows, blockages, and encounters. Approaching the border in this manner creates room to theorize the relation between borders, technology, and imperial formations. Since the nineteenth century, US empire has wrestled with the frictions inherent in its practices of inclusion and exclusion. Imperial desire to establish and patrol territorial and identity boundaries was tested through expansion and the differential treatments of racialized populations.[11] Perhaps no other discourse encapsulates these frictions so poignantly than Manifest Destiny, a kind of preordained justification for continental expansion. "Americans," border historian Rachel St. John holds, "embraced the notion that their national boundaries would continue to expand to incorporate ever more land and people under the umbrella of republican government."[12] Manifest Destiny expressed a political, civilizational drive to bring lands and people, especially those in the US Southwest, into the fold of the US government. Science and technology offered US actors the ideas, tools, and methods through which borders could be expanded, constructed, and policed. Yet this assemblage also highlights the tenuous and unstable existence of "the border." There is no evident boundary to which actors can point to; instead, the border beckons iterative actions, operations, knowledges, and instruments to produce it. Technoscience is integral to the making and enforcement of borders as much as to governing who can be included and excluded from the nation.

The Cybernetic Border studies the moments when US government officials imagine data, interpreted through the framework provided by cybernetics and information theory, as the technoscientific production of the nation's

boundaries on people's bodies and on land. Border Patrol agents—armed with seismic sensors, computers, and radio communications—record the surreptitious entry of unauthorized border crossers. Operational technologies transform border crossers into knowable entities, data subjects to be apprehended and processed by the border regime. They also make land into territory, as technologies actualize sovereign claims over the southern landscape. A focus on data goes beyond visual control. Data, a legacy of "the avalanche of printed numbers," are the things to be collected and circulated to make sense of the world just as much as to govern it. Actors throughout the twentieth century practiced border and immigration enforcement by using psychology, blood quanta, and other biometrics that sought to determine and fix essentialized racial characteristics of subjects—and, by extension, their admissibility to the nation.[13] The visual field was but one field among various sensory systems and modes of knowing, of "objectively" bringing the Other under the command and control of the knowing subject.[14] Since the 1970s, government and nongovernmental actors restructured the production of the border through the design and use of information technologies. Immigration officials back then spoke of the need for computing and automated technologies to govern a "flood of immigrants" and help the immigration system avoid from "'drowning' in paper."[15] Migrants as data-producing subjects and as subjects of data, respectively, could only be controlled by an information technoscientific regime. This ongoing regime organizes and materializes border enforcement through routines and feedback loops; it is an abstract and abstracting regime where sovereignty and information technologies are mutually contingent.

BORDERS AND GOVERNMENTALITY

By studying enforcement, the actors, artifacts, practices, institutions, and ideas that sustain the border become scrutable. Just as well do its gaps, frictions, and failures—all of which are integral to the history of the border. Competing sovereignties in the border zone continue to call into question the US and Mexican governments' claims over land and people. Persistent Indigenous refusals over the centuries have produced what Indigenous studies scholar Audra Simpson calls "settler precariousness," or the lingering sense that assumptions about the permanence of national boundaries are on shifting grounds.[16] Border and immigration enforcement highlights the contingency of the border and that it is a political technology in the making of empire and the nation—that is, the making of its people and its social space for rule.

The border is concomitant to the deployment of technological devices and scientific knowledge meant to bring it forth into the world. Ideas about race, citizenship, and the nation shaped the formation of an increasingly restrictive immigration regime since the turn of the nineteenth century.[17] Along the southern border, this regime targeted racialized populations such as Chinese, Mexicans, and Native Americans in its pursuit to control the border.[18] In her work on medicalization and nation building along the US-Mexico border, historian of science Alexandra Stern shows how passage of the 1893 National Quarantine Act and subsequent immigration acts standardized medical inspection into law.[19] Physicians at sea and land ports of entry examined the bodies of immigrant and nonimmigrant aliens. They also performed cursory psychological profiles of them, gauging any possible reasons to enforce their exclusion. Along the US-Mexico border in the 1910s and 1920s, government officials incorporated medicalization directly into the entry process by turning land port buildings into assembly lines. Migrant bodies moved from one kind of inspection to another as they navigated their way through the building: delousing, bathing, vaccination, clothing and baggage disinfection, medical evaluation. In the process, human bodies were turned into excludable or includable subjects, into categories to be managed and processed. "Boundaries, at this edge of the empire-nation," Stern contends, "moved reversibly from the epidermis or body itself, to the landscape of rivers and deserts, and onto bodies *en masse*, or 'races,' as classified by censuses and other indexical strategies."[20] And still, the medicalization of inspection struggled to make sense of how Mexicans troubled US racial logics predicated on the binary white and Black. It was the focus of eugenic discourses on blood that allowed for the production "of a new racialized group at once non-white and non-black, while helping to delimit Mexico as a totally foreign land."[21] Immigration officials made Mexicans into excludable subjects by racializing Mexicans as "non-white and non-black." They did not fit the narrow scope of the existing racial order in the United States. In the early twentieth century, the aim of actors was to sever the shared histories of the US Southwest by racializing Mexicans as subjects and population.

Racial difference informs how border officials have governed the degrees of inclusion/exclusion by which subjects, especially Latina/o/es, can participate and belong or not to the US imagined community.[22] Practices of identification and differentiation highlight how the border is the product of calculated and systematic ways of thinking and acting. Such practices seek to shape, regulate, and manage the conduct of individuals and populations

with distinct ends. Chief among these, Latina/o studies scholar Jonathan Xavier Inda tells us, are "immigrants" as targets—unwillingly enrolled in their subjection. US governmentality operates through an epistemological regime that defines fields and terms of engagement whereby unauthorized migration is constituted as an object to know, calculate, and manage as much as an entity that material implements and inscriptions make visible.[23] Practices of differentiation not only create boundaries of expulsion from the nation but an evacuation of the possibility to have rights in the first place. This is what American studies scholar Lisa Marie Cacho points to as a foundational friction within immigration law. "Illegal aliens" are "anti-citizens" because they do not have the option to abide by the law; they are the limits of the law, "people ineligible for personhood."[24] In its impetus to target Latina/o/es in the borderlands and to police their inclusion/exclusion from the nation, border enforcement is associated with the racial management of populations, and such management depends on technoscientific practices that structure and make sense of the world.

This book studies government approaches to the border through networks of material inscriptions—imaginaries and practices such as Immigration and Naturalization Service (INS)/DHS policy documents, reports to Congress, journalistic reports, enforcement techniques, and operational footage. These networks of inscriptions are constitutive and representative of enumerative practices that sort, group, and divide people into classified quantities.[25] Intrusion detection sensors and drones, as subsequent chapters demonstrate, detect and record border incursions. These incursions are translated into data and, as such, are automatically processed and sorted through predetermined classificatory schema that privilege the policing of some racialized bodies over others. Networks of material inscriptions are meant to render these bodies legible to intervention. Enumerative practices are not just articulations of an "avalanche of printed numbers," a phenomenon Ian Hacking argues emerged in the nineteenth century.[26] Instead, I argue, they are the result of a shift toward information communication and control. This shift makes new sense of biopower and governmentality on the border through the calculation and automation of the political.

THE TECHNOPOLITICS OF IMPERIAL FORMATIONS

Border technopolitical regimes comprise the historical entities involved in governing the material boundaries of imperial and national formations. Regimes are enrolled by human actors to prescribe the kinds of subjects and

objects—such as people, knowledge, artifacts—to be included or excluded from them. Border technopolitical regimes are, building on the work of science studies scholar Gabrielle Hecht, those associated peoples, ideas, institutions, ways of acting, technological devices, and political goals that promote a certain style of organization and participation.[27] Border technopolitical regimes are made of people who govern, the ideas that guide their behavior in the world, and the artifacts and organizations they create to act on the world.[28] The INS/DHS and its vast range of corporate and higher education partners form one of those regimes, which I return to throughout the book. Within it, technologies are designed to provide the basis and mechanisms for political power, which is to say for (mis)recognition, for (im)mobility, and for inclusion/exclusion. Entities are *brought together by* just as much as *they spring forth from* a regime of truth—the range of practices and orderings that govern the boundary between the true and the false, the admissible and inadmissible.[29] In this sense, border technopolitical regimes are, according to Black studies scholar Alexander Weheliye, "racializing assemblages": a sociotechnical agglomeration of entities, forces, velocities, intensities, interests, ideologies, and desires that produce relations of control as much as relations of fugitivity.[30] These regimes work to classify, differentiate, and govern land, people, goods, and rights; however, in doing so, they inevitably leave room open and create outsides where desires of liberation can escape.

The southern US border, as a space and an amalgam of artifacts, is integral to US imperial and national formations because of its role in the making of sovereignty. In the early twentieth century, as chapter 1 argues, air power represented the possibility to institute a regime whereby racialized Others (Asian, Mexican, and Indigenous) could be managed and administered from the air through the deployment of aviation. Air power emerged, then, as a spatial as much as a racial technique to limit the kinds of bodies that could enter and be a part of the "American" nation. People's mobility was governed through their classification, just as land was partitioned into parceled and enclosed spaces that responded to the demands of a sovereign. The fabrication of sovereignty, then, included determining who could move and where, when, and under what conditions. These dynamics are what make imperial formations into generative machines—they produce practices of exception meant to differentiate people and places while making them manageable.[31] Discriminatory practices, as science and technology studies (STS) scholar Ruha Benjamin suggests, are not only coded into laws and policies but also in everyday objects, tools, and infrastructures.[32] The analytical move is to

ask who and what are fixed in place in the matter of sovereignty. Practices of exception reveal the distinct style of border technopolitical regimes; they are the genres through which border regimes fabricate the bounded spaces where sovereignty is enacted, contested, and negotiated. Genres of border technopolitical regimes tackled in this book include air power and the cybernetic border itself (more on this soon). To think about border regimes in relation to imperial and national formations is to open the black box of their techniques of rule. Techniques such as race and territorialization are among the practices of most consequence because they operationalize the grounds (literal and metaphorical matter) for domination.[33]

Throughout this book, I understand race as a technology of distinction. Race is often an unmentioned heuristic artifact to make meaning of peoples and the performance of devices. To classify and to sort means to produce and harness sentiments of similarity and difference. Since its inception as a categorization technology, digital studies scholar Wendy Chun shows us, race has been wielded "as an invaluable mapping tool, a means by which origins and boundaries are simultaneously traced and constructed and through which the visible traces of the body are tied to allegedly innate invisible characteristics."[34] Paradoxically, racial ideas differentiate between peoples by constructing certain attributes as essential or bound to the body so that they cannot be undone. But racial ideas must be permanently enforced so that their structuring of relations endures.[35] This is what Chun describes through the notion of "race and/as technology." A focus on "race *as* technology," she argues, building on ideas from digital studies scholar Beth Coleman, "shifts the focus from the *what* of race to the *how* of race, from *knowing* race to *doing* race by emphasizing the similarities between race and technology."[36] This book deploys the framework of "race and/as technology" to understand how actors entangled racial ideas with techniques of control. Through drone operations and intrusion detection systems, Indigenous folks and Mexicans in the mid-twentieth century were, for example, prescribed to play roles of enmity. These technological systems were shaped by racializing settler colonial narratives as much as by creating new material inscriptions of them.[37] While concerned with a different context, digital studies scholar Lisa Nakamura has similarly argued that racial images are integral to the articulation of digital communication, which is the case with systems like Anduril's Lattice and the electronic fence—operational technologies that record, store, process, and communicate racialized behaviors.[38] By examining digital racial formations, I show that historical narrative tropes of the frontier help frame how technical artifacts are imagined

once they enter the borderlands and that artifacts also recode how social relations in the "wild" frontier take place.

Imperial formations are not clearly bordered or bounded polities, and so they are incessantly drawing and erasing their boundaries of rule. And yet, they are dependent on the fabrication of durabilities, of enduring relations of power that safeguard the perpetuation of empire and the nation. The process of making land into territory, or what sociologist Nandita Sharma calls the abstraction of land into "state space," is not some natural process. It requires deliberate effort in forging both the sense of some "natural" separation between an enclosed space and what exceeds it and a "natural" identification between a group of people and this newly enclosed space.[39] Without durabilities, imperial formations dissolve into thin air. This is where border technopolitical regimes are of fundamental importance to them. These regimes, often visible in the built environment, produce boundaries that demarcate and trace the spatial arrangements within and through which actors act and subjects are made. Normative citizens are safely enfolded by the embrace of such regimes, even as second-class citizens and noncitizens, especially those deemed intruders or illegal, are differently situated within and without the spectrum of belonging.[40] Border technopolitical regimes manage the boundaries of inclusion/exclusion, which is to say the boundaries of participation in the body politic.

To describe a regime's subjects and objects of knowledge is to grasp the political commitments of its actors and the techniques designed to materialize said commitments. The border technopolitical regime examined here comes together through operations of governance executed by a range of actors entangled with sovereignty—such as Border Patrol agents, engineers at computing and military manufacturers, and journalists. In other words, the notion of border technopolitical regimes does not presume the existence or legitimacy of imperial and national sovereignty. It stresses that sovereignty is constructed and permanently performed and under duress.[41] Border technopolitical regimes are also organized around the promotion of a specific style of technical development. In today's case, it is the central role assigned to data as the vector through which the national border is produced. The regime of the cybernetic border leverages data and information as the means to govern—that is, to manage and order entities in relation to the nation. By privileging data, the regime favors specific kinds of sociotechnical arrangements associated with feedback loops of data capture, processing, and communication that shape operations.

The cybernetic border, the ongoing hegemonic genre of the border technopolitical regime analyzed in this book, is the product of sovereign practices just as much as it is the producer of sovereign practices. Data are simultaneously the objects and vectors of the cybernetic border.[42] Bodies of data and data bodies structure relations of nation making. The cybernetic border is part of what international relations scholar Antoine Bousquet calls "the logistics of perception," or the organization of the perceptual field in modern warfare through the systematic collection, storage, and transmission of information.[43] The logistics of perception operates through technoaesthetics by arranging the sensible and the epistemological grounds for engaging the world. Human-machine configurations of the cybernetic border striate land and bind subjects through quantification, computation, and probability. It is an epistemological order of things and beings. It designates the legal categories of rule and their exceptions. Unauthorized border crossers and Border Patrol agents are differently subjected to the flows of the cybernetic border. Some resist it, others maintain it, and even others seek to avoid being brought into its modular fold.

How should readers interpret the relation between the cybernetic border and sovereignty? Drawing inspiration from the work of visual arts scholar Benjamin H. Bratton, I suggest that the point is not that sovereignty is a timeless constant that is now articulated through a cybernetic border regime. Rather, since the mid-twentieth century, the cybernetic border and sovereignty are mutually contingent. "The systems that mediate governance bind them to it just as it is bound by them."[44] The management and administration of borderlands, its people and territory, is co-constructed by how and what its technical infrastructures allow it to sense, measure, and organize.[45] By working with a technopolitical framework, I propose we pry open the technological black box. The framework of border technopolitical regimes requires the tracing of relations across entities (peoples, ideas, institutions, practices, technical devices) to reassemble its machinations. As this book shows, operational technologies are all part of a broader arrangement that treats the borderlands as a data-generating space where racialized populations are prescribed the role of intruders to control. They are the matter of the cybernetic border.

Uses of technoscience in border enforcement stress that the border is not some line in the sand or some transparently enforced policy prescription. Borders are the infrastructural media matter of sovereign practices. They are the products as much as the producers of distinct lifeworlds. And as

such, they require material, interpretive, critical, and interdisciplinary approaches for inquiry.

Militarization and Enmity

Throughout this book, I study a range of military technologies that spanned foreign battlefields and the war fields of domestic space. This, in addition to the participation of military actors themselves and the use of military logics, is what many border studies scholars often describe as the militarization of border enforcement. Some scholars date the militarization of border and immigration enforcement to the 1970s with the federal government's increased interest in controlling drug smuggling.[46] Others see militarization as occurring well before the war on drugs or even policing efforts like Operation Wetback in 1955. They refer to aerial surveillance by US federal troops during General Pershing's expedition against Pancho Villa and his rebels in the period of the Mexican Revolution, or longer than that, examining the appropriation of Indigenous knowledge practices for border enforcement since the nineteenth century.[47] The creation of the Border Patrol in 1924 and its existence is often the point of consensus for scholars who support the thesis on the militarization of the border.[48]

I am skeptical of this framing for two reasons. First, it treats military logics as the effects of technology or the mere presence of military actors. Technologies such as intrusion detection systems and drones were most certainly developed for US military engagements, often overseas. But to say these technologies are military and that they, therefore, militarize a given space or practice does not explain them. This kind of argument keeps the lid closed on the perpetual technological black box by taking for granted the kinds of relations it enacts. What makes a technology embody a martial logic? Often this has to do with the exercise of the monopoly of violence and the "enemy-friend" distinction. Border historian Miguel Antonio Levario elaborates this point by claiming that the presence and activity of US police forces in the early twentieth century, including paramilitary organizations, agitated racial frictions between whites and Mexicans in the southern borderlands. These processes led to the treatment of Mexicans as enemies of the nation.[49] Technologies, however, have their own logics, and these should not be disregarded as if they were epiphenomenal or only socially determined. Scrutinizing technology, including military technologies, requires understanding the relations that produce them (and that they produce) just as much as the meanings that these relations hold for actors.

My second reason to be skeptical of the thesis of the militarization of the border is that it assumes there was a time when it was not militarized. This is a common argument in debates about policing as well because it helps separate police power from war power—the notion that the former keeps the internal peace of the nation while the latter defends it from external threats. The institutions associated with each of these modalities of power, however, are historically entangled in the fabrication and preservation of a sovereign social order.[50] When it comes to US borders, police and war power are historically linked to the settler colonial project, of producing territory and policing citizenship through racial dispossession and violence. Throughout the nineteenth century, for example, US soldiers, sometimes with allies and other times by themselves, conducted wars of expansion and "pacification" so that US sovereignty was established, recognized, and maintained over land, goods, and people.[51] To produce the territory of the nation and its boundaries of separation from other territorialized sovereignties meant to exercise both police and war power in the engagement of an unruly, transgressive enemy.[52]

The persistent presence of science and technology in border making and border enforcement suggests a pressing need to understand their roles. One such role is the creation, maintenance, and reproduction of relations of enmity. Examining these roles requires tracing the coproductions between the military logics embedded in imperial and national sovereignties as much as the distinct human-machine configurations that make them and that they make possible.

Cybernetics and Drones

Cybernetics shapes the technologies discussed in this book. This knowledge formation has been integral to research and development in computing and information systems since the mid-twentieth century. Cybernetics posits that all complex systems depend on the management and processing of information to function and to maintain themselves. Focus on information allows cyberneticians to abstract and thereby blur the boundaries between entities. They use the same terms that name mental faculties and processes (e.g., memory, intelligence, learning) to describe computer hardware and computational processes (e.g., storage, software, pattern recognition).[53] Drones, intrusion detection systems, and computer networks owe much to the interdisciplinary science of communication and control processes in living organisms and machines. Operational technologies function through

information as much as they contribute to information infrastructures guiding Border Patrol performance in the borderlands. Often discussed in relation to military ventures outside of US territory, this book situates cybernetics and drones as imperial formations at home, with special attention given to their roles in the production of enmity. By approaching drones through cybernetics, this book treats them as part of a changing information infrastructure made by and making the US empire-nation.

Immigration and border enforcement in the mid-twentieth century were imagined through the language of cybernetics as constituted by and governed through information. As I show in chapter 2, officials believed that effective operation of the immigration system required new techniques for information recording, processing, and communication at ports of entry, immigration offices, and the remote areas of the borderlands. Controlling data inputs and outputs was a central concern for immigration administrators—part of a long history in the control revolution of the information society.[54] This is what cybernetics portrayed through the metaphor of "steering," or how living organisms and machines sustained themselves by governing information flows. Drawn from the realm of cybernetics, steering became a structuring practice guiding human activity and human-nonhuman relations.[55]

Since its emergence in the 1940s, cybernetics has been a part of an imperial technopolitical regime designed around enmity. The focus on an enemy is what led STS scholar Peter Galison to describe cybernetics as part of the Manichean sciences, which also included operations research and game theory. The Manichean sciences were the product of a growing "iron triangle" that enrolled academic institutions during World War II for the development of new military technologies.[56] Following the work of mathematicians Norbert Wiener and John von Neumann, Galison shows how the Manichean drive emerged through "the continuing struggle against an active oppositional intelligence."[57] The purposeful monitoring and forecasting of human behaviors led to the development of an "Enemy Other" that was generated, he argues, not out of the racial discourses commonly latched onto bodies, but from the laboratories associated with war making at the Massachusetts Institute of Technology (MIT) and other universities in the United States and Great Britain. This enemy operated in a "world of strategy, tactics, and maneuver, all the while thoroughly inaccessible to us, separated by a gulf of distance, speed, and metal."[58] The merging of pilot with machine helped blur the human-nonhuman boundary as pilots and their airplanes were abstracted into statistical plots. The enemy in this construct was not

a moral/immoral model against which to be measured. Instead, it was like one of von Neumann's game players, "perfectly intelligent, perfectly ruthless operators" producing moves and countermoves in an opposing relationship to fundamentally different but like forces.[59] Cybernetics in this sense is the product and producer of a border technopolitical regime that submits the world—its human bodies and nonhuman entities—to the abstract language of engineering and the drawing of exceptions that prescribe some to play the role of enemies of the nation. Cybernetics is more than a military-academic-industrial project. It is a knowledge formation affecting the differential management and administration of life and death.

This book makes plain that the laboratory production of an Enemy Other cannot be disentangled with the more messy and insidious creation of the racial Other. The "monstruous, racialized images of hate," which Galison talks about as distinct from the anonymous enemy, were not an addendum or supplement to the Enemy Other.[60] The racial enemy and the Enemy Other are entangled, coproducing each other. The supposed inhumanity of the former buttresses the abstracted "nonhuman-ness" of the latter. Celebratory narratives about the liberatory potential of the cyborg, the posthuman, and of cybernetics must never forget that these are artifacts of a military technopolitical regime geared toward the fabrication of exceptions.[61] In the case of the intruder monitored, tracked, and anticipated by the electronic fence, it emerged out of the articulation of a war-making milieu that imagined Vietcong fighters as "dirty," less-than-human targets to eliminate. Such milieu was also informed by a discourse positioning Mexican migrants as invaders from the "Third World." Without such racial imaginaries devaluing the humanity of these targets, the technical Enemy Other cannot emerge. In a sense, one might say that Enemy Others are paradigmatic of the posthuman subject position—not tightly bounded and overdetermined but never far from the regime excluding them from humanity. Targets and Enemy Others are one and the same boundary objects through which the technopolitical regime of the US empire-nation actualizes itself.

To examine operational technologies in relation to cybernetics is to connect them to computing. Scholars in the history of computing contend that this technology was the product of intricate relations between military, industrial, and academic actors.[62] Narratives often emphasize that actors shifted the use of the computer from being a military and scientific instrument into a business machine in the 1950s and 1960s and a personal device in the 1970s. Other scholarship shows how cybernetics and computing were deployed in urban planning during the 1960s, in the social sciences and art

and design in the United States, and in the making of socialist governance in Chile during the Salvador Allende presidency.[63] This book builds on such work by making sense of the encounter between cybernetics and INS/DHS, one of the largest federal agencies in the United States. Immigration and border enforcement are also part of the history of computing. These practices expanded the reach of computers to new areas beyond strict military, scientific, business, and personal uses. Computers used in drones, intrusion detection systems, and smart borders were and continue to be important in the process of constructing and administrating the boundaries of enmity and in territorializing the nation.

Technicians increased the autonomy of drones through the use of electronics and, later, computers. The UAS became capable of deciding and executing actions without the intervention of a human actor. Historically, the term "drone" was used to refer to a remotely piloted vehicle (RPV), the focus of chapter 1. Though unmanned, RPVs required the active control of a human through radio waves emitted from a controlling device on the ground or mounted on a different vehicle and sent to another device that, equipped on the "unmanned" vehicle itself, actuated its different mechanisms, such as motor speed and steering.[64] Increases in autonomy led to changes in nomenclature as these vehicles began autonomously executing a plethora of actions. Hence, there was a turn away from RPV to a cybernetics-informed and more nuanced conception of drones as unmanned systems. This move acknowledges the layering of technologies of remote control and tactical operations (e.g., cameras, sensors, lethal weaponry). It also demonstrates how drones are not stable and unified wholes but assemblages of humans, machine, ideas, practices, and media.[65] Throughout this book, "drone" and "unmanned aerial system" are treated as synonymous terms. The focus is on large military UASs rather than the growing small UASs used by hobbyists and industry.[66] Chapter 3 is devoted to UASs used for border enforcement today that do not carry weapons and that are operated by the Customs and Border Protection (CBP) Office of Air and Marine for patrol, investigations, and disaster relief.[67] UASs feed data into a wider information infrastructure that includes ground sensors, CCTV cameras, and radio and satellite communications. All information or "raw data" gathered in their operations is processed, exploited, and disseminated by the Office of Intelligence and Investigative Liaison. Drone data, either delivered in real time or used retroactively, inform enforcement operations designed to control unauthorized border crossers—either as a "show of force" that dissuades them from venturing into dangerous border landscape or by aiding Bor-

der Patrol agents to apprehend them. UASs discussed in this book do not shoot at unauthorized border crossers, but they are tactical instruments in an enforcement approach that drives crossers father into remote areas of the borderlands, where hundreds lose their lives every year.[68]

While having an international history, drones are also the embodiment of political formations and logics at the heart of US empire. Some scholars have shown that drone-hunters and target-prey are animated by the production of enemies in state making. Of greatest concern is the fact that drones propel a "warfare without risk," a mode of military engagement that removes or minimizes the human calculus from those remotely operating them.[69] Other scholars, equally interested in questions of sovereignty and biopolitics, examine UASs as part of the US empire-nation's commitment to expand the reach of actors by reconfiguring space and territory.[70] Drone warfare, in other words, materializes a regime designed to safeguard the security of the US nation by segmenting populations into those made to live and those allowed to die. Enemies and territory are (re)drawn through the politics of drone operations.[71] What some of these scholars construe as a drone empire, this book studies within the framework of cybernetics. In doing so, I situate UASs as part of a larger information infrastructure animated by and animating the bounds of sovereignty.[72] This is the cybernetic border.

The cybernetic border transcodes physical space and all kinds of entities within it into electrical or digital signals that are then stored on databases, processed by algorithms, or displayed on a screen. Such representation of objects in the borderlands is not an isolated, technical process but one shaped as well by relations and imaginaries. Data are filtered through relations of enmity and segmentations of land into territory. Interrogating the processes of recognition and data capture reveals the ways that border and immigration enforcement depend on human-machine configurations of mediation to identify, name, and sort. Enforcement practices require information infrastructures, and consequently, said practices are transformed by them. As part and parcel of the cybernetic border, drones and intrusion detection systems distribute the labor involved in producing and enforcing the border, though more importantly, they operationalize the law.

The datafication of humans, human behaviors, and land as well as their integration into the recursive loops of cybernetics begs the question of agency. Border Patrol agents are trained to internalize cybernetic routines of enforcement in reading out ground sensor data, using drone video streams to guide operations on the ground, and recording enforcement data to measure its purported efficiencies. Agency is distributed across shifting and iterative

networks of operations. But what about the agency of unauthorized border crossers and intruders within this system? The former is a fugitive figure. They transgress the order of the border technopolitical regime and, in doing so, undermine the sense of stability of the sovereign project of national formations. Their agency is premised on their capacity to escape the territorialization of the bordered space and avoid capture. The figure of the intruder, on the other hand, is the integration of the unauthorized border crosser into the machinations or operations of the cybernetic border. Within this system, their agency is tightly determined by this regime, which embeds it in its routines. The agency of the intruder reifies and justifies the regime itself. Even if the intruder avoids capture, the transgression is read as a technical or systemic failure in need of reprogramming or upgrade. In this sense, it might seem as if the agency of the intruder is unthinkable because it is an object of the cybernetic border. But the intruder is a data assemblage, an amalgam of data sources as much as a political project of the empire-nation. Even when human-machine configurations of the cybernetic border succeed in shaping some intruder behavior, they are incapable of fully apprehending their targets—unauthorized border crossers cannot be contained by the category of intruder, nor can their lifeworlds and their complexities. These are some of the data haunts of the cybernetic border, the excesses or shadows that activists and artists identify as generative dynamics to disassemble this regime.

The Cybernetic Border grapples with the making of sociotechnical arrangements around racialized intruders to shed light on the role of information and computing in the US empire-nation. What happens if we consider cybernetics and computing through the lenses of racial and imperial formations? And, conversely, what happens when we examine racial and imperial formations through the framework of technopolitical regimes? This book answers these questions.

Mapping the Cybernetic Border

Border crossing has long been understood through processes of empire and settler colonialism concerned with intrusion. In making sense of intrusion, actors often drew from frontier imaginaries and a settler colonial structure of feeling. White settlers imagined the edges of the empire-nation as naturally belonging to them because it was there they would pioneer a new and stronger nation. When the contest between the United States and the Soviet Union mushroomed into the Cold War, chapter 1 argues, the border technopoliti-

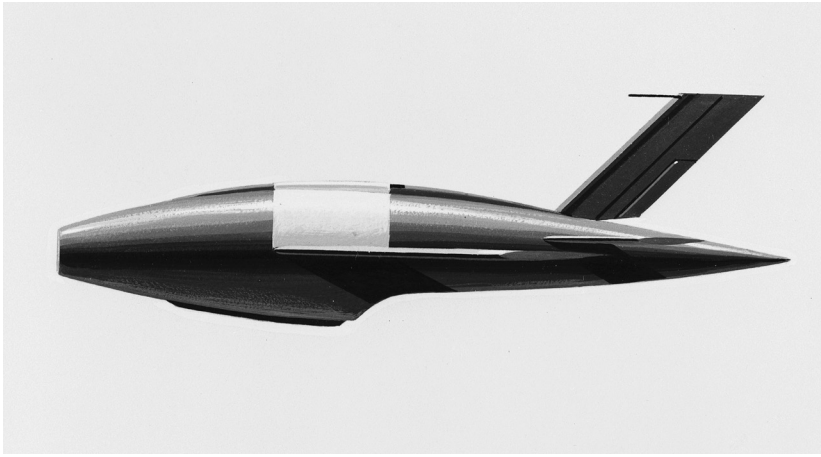

FIGURE I.2. Firebee drone manufactured by San Diego–based Ryan Aeronautical. Source: San Diego Air and Space Museum.

cal regime enrolled unmanned aerial vehicles like Ryan Aeronautical's Firebee (see figure I.2) to be the perfect intruder target to test the technological frontiers of the nation. Like cowboys hunting after "intransigent" Indigenous peoples, human pilots and their "trusty mounts" were imagined aiming their metaphorical pistols on drone targets. Chapter 1 demonstrates that the regime combined the technopolitics of air power and unmanning in the reproduction of settler colonial and imperial logics of differentiation. To police the national border and defend the nation was to treat the nonhuman, racialized intruder as expendable.

Government officials, technicians, and journalists translated the idea of drones as intruders of the borderlands onto the bodies of Mexican migrants by 1970. Chapter 2 probes the moment when INS worked in the articulation of, and the supposed solution to, an "illegal alien" problem. Construed as illegal and "deportable aliens," Mexicans were the targets of a growing experimental and infrastructural arrangement.[73] Cybernetic ideas and intrusion detection systems were adopted to draw an electronic "line in the sand" in the management and administration of the US-Mexico border.[74] The system, originally developed for military use in Vietnam, established the conditions of possibility for future collaborations between the US military, the electronics industry, academia, and the INS. These collaborations are at the core of what I have termed the "border technopolitical regime"; two decades after the attacks of September 11, 2001, others often call it the

"homeland security–industrial complex."[75] Drawing the electronic line generated two additional and enduring effects. First, actors and machines traced the boundaries of the nation on the ground and on human bodies—racialized bodies and populations imagined through the sociotechnical classification of intruders. Second, people were abstracted into data inputs and outputs to be measured and analyzed. Chapter 2 zeroes in on the meanings of these data technopolitics. By ordering and sensing data, an information infrastructure was made responsible in executing (remote) control over the borderlands. The electronic fence is, in other words, part of the ongoing automation of border enforcement and the construction of the cybernetic border.

In continuing to grapple with the meaning of the cybernetic border and the lasting impact of the electronic fence, chapter 3 examines DHS plans for "operational control" through a strategic commitment to smart borders. Nativist, anti-immigrant, and populist discourses successfully pressed the federal government throughout the 1990s and after 9/11 to adopt more aggressive approaches to immigration. Combining the logics of war and security, the technopolitical regime that came out of the War on Terror is tasked with managing the clash of civilizations against Latina/o/es, Arabs, and Muslims. This is a regime devoted to operational control and "smart borders." While the electronic fence of the 1970s was an isolated sociotechnical arrangement, the smart borders of the twenty-first century are supposed to be interconnected, integrated into a wider network of technologies of change detection—also known as a system of systems (figure I.3). For DHS, change detection is part of the strategic commitment to smart borders, an arrangement measured through border metrics and the capacity to influence the behavior of actors in the borderlands—unauthorized border crossers as much as Border Patrol agents. The pursuit of smart borders treated the border as a networked platform that prescribes how border crossers within its datafied field are engaged, as risk objects of the nation.

The final chapter shifts gears by flipping the scripts of the cybernetic border. Chapters 1 to 3 trace how a range of government and corporate actors entangled ideas about the frontier, the nation, and race with the human-machine configurations at the heart of the cybernetic border. These technologies and their deployment often evoke a totalizing aura of absolute knowledge and mastery over its targets. Their failures and incapacities are many, some of which are discussed in this trio of chapters. Yet, the aim of chapter 4 is to explore the limitations of the technoaesthetics of the cybernetic border, or how the sensible and the epistemological grounds for engaging the world

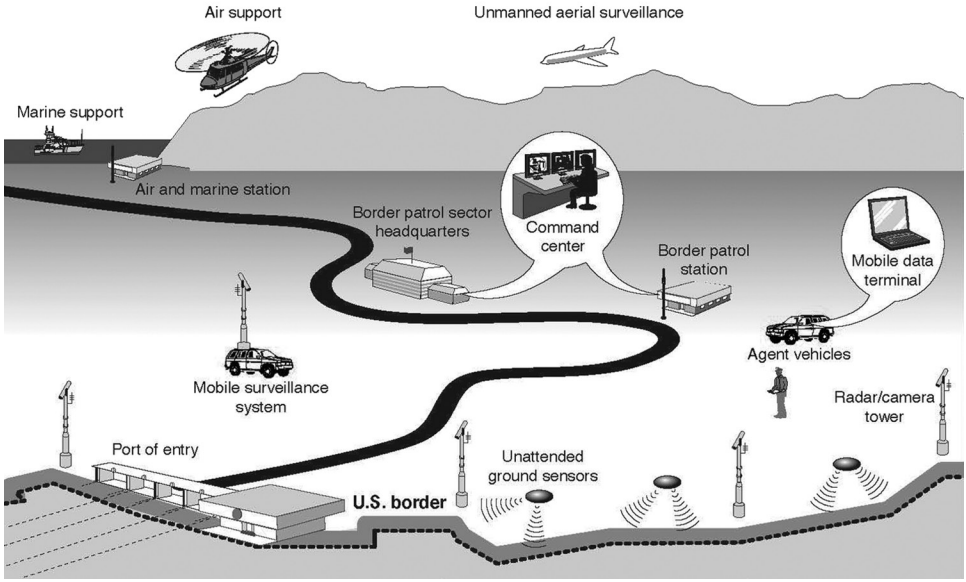

FIGURE 1.3. Diagram explosion of the "system of systems." Source: Government Accountability Office, "Secure Border Initiative: DHS Needs to Address Significant Risks in Delivering Key Technology Investment," GAO-08-1086 (Washington, DC: Government Accountability Office, 2008).

are arranged. Technoaesthetics is about reconfiguring human sensory experience. Activists and artists disturb these configurations through disassembly and data haunts.[76] The interventions of Alex Rivera, Humane Borders, Ricardo Dominguez, Ian Alan Paul, Jane Stevens, and Josh Begley subjected the regime's technoaesthetics to inquiry and critique. Their work scrutinizes the cybernetic border's privileging of data and their limits—the haunting shadows that escape capture in processes of datafication. Chapter 4 offers thick descriptions of their works as technoscientific scenes to draw out the relations constituting the cybernetic border. I also conducted oral history interviews with Dominguez and Paul, and listened to and read interviews with the other activists and artists to learn more about the kinds of associations they make between the border and infrastructures. Their interventions and the language they produce challenge the ways the cybernetic border operates at the intersection of life, death, and data in the fabrication of intruder targets. For these activists and artists, drones, computers, and databases are machines to think with and against as actors seek to reorient their functioning. In recognizing and inhabiting the assembling work of the

cybernetic border, activists and artists disassemble it. They use operational technologies to contest the sovereign project of borders and of making territory and people. Their work generates an opening that moves beyond the constructs of nations and the recurrence of enmity.

On Methodology

Archival materials collected from 2015 to 2022 constitute the backbone of this book, and these materials required different modes of engagement. I open a window into the secretive world of military technology by analyzing promotional documents, corporate and government memoranda, transcripts of congressional hearings, technical reports, newspapers, film, surveillance footage, and art. Materials were produced by diverse actors including federal agencies (e.g., INS, DHS), government and elected officials, journalists, technicians, defense manufacturers, activists, and artists. Many of these materials are constitutive of imperial formations—that is, they performed practices of distinction, classification, and exception that enforced asymmetrical relations. As a result, they require a reflexive disposition to identify their logics and politics as well as to avoid reproducing them. Drawing together the heterogeneous materials of imperial formations and telling stories about them renders these materials more solid and steady than they are. This book seeks then to reveal their fractional coherence, or how entities are imagined coming together, to exist and to relate with other entities.[77] Operational technologies and the sociotechnical relations they embody are differently produced by a range of materials and actors that, in working to stabilize them, inevitably recognize their mutability.

This book analyzes materials from INS and DHS that sought to define the contours of alienage, the methods for differentially subjecting those populations identified through alienage, and the techniques for drawing up the shifting geographic zones for the exercise of US sovereignty. Engaging bureaucratic thought-work creates an opportunity to scrutinize the routine production of "orders that bind differentiated wholes together."[78] This thought-work is embedded in and enacted through iterative human-machine relations. The practices examined in this book, such as treating the borderlands and its bodies through cybernetic concepts and technologies, shape the conditions of knowing—the kinds of bodies, identities, and imaginaries that can be made perceptible. These practices also set the conditions for the materiality of the contemporary archive of the US empire-nation: papers, .PDF files, wires, computer screens, manned and unmanned airplanes,

film, B-roll footage, streaming platforms, and webmaps. "Systems of written accountability," anthropologist Ann Laura Stoler concludes, call "for elaborate infrastructures. Paper trails of weekly reports to superiors, summaries of reports, and recommendations based on reports all [call] for systematic coding systems by which they [can] be tracked."[79] Control emerges, or at least actors hope, through categorical and technological sorting, through networks of inscriptions.

INS/DHS materials as well as materials produced by other actors in industry and the wider public create networked inscriptions dependent on, as much as generative of, protocols of control. When I decided to write about military drones on the US-Mexico border, I found myself with the challenge of writing about an object cordoned off by what Galison calls the "closed world" of military research and military technology.[80] The design, technical elements, and people involved in the development of military technology, among other things, are kept secret through the use of government classification schemes. Even when documents might be released through Freedom of Information Act requests, chunks of information might still be redacted, and to all extent removed, to prevent others from knowing and, at times, to protect the people involved. And materials made for public consumption such as INS and DHS reports are deliberately vague to preserve the secrecy of security practices and arrangements. The classification regime of the closed world is part of the border technopolitical regime's archival logic.

This book navigates the fragmented logic of the archive by engaging its materials as technoscientific scenes. While incompleteness is integral to archives themselves, in the archive at the heart of this book it was intensified by the classification regime of modern state making. When it came to the artifacts of the cybernetic border like drones, intrusion detection systems, computing, and smart borders, I was challenged to figure out how to do research with a ruptured and dispersed archive whose materials speak not of a singular object but different versions of the same one. Archival materials are both the products and producers of gaps, omissions, and fissures in public knowledge about (military) technoscience.[81] In this sense, these materials constitute scenes or subdivisions in technoscientific acts, units of action in larger stories. But they are also the stage settings and the stage itself. They are disassembled wholes, the matter on which partial relations are inscribed and executed by discrete actors. This is where roles are given and performed. I had to track what actors in different sectors and constituencies discussed and, in doing so, recompose the stories they had for a particular sociotechnical arrangement. Archival materials generated by different institutions,

companies, and people all strove to coordinate the multiple objects they create and make them into stable and legible unities.[82] These materials worked to reconfigure space and people into neatly ordered entities folded into the world made by technological objects and by the materials themselves.

The cybernetic border becomes a legible entity by drawing ideas, practices, and devices together. I trace associations and describe their meanings—the kinds of political imaginaries they sought to enact. Materials produced by the US government and its military, by the popular and trade press, and by engineers and technicians document what data and drones do and how they are imagined and engaged. These materials help us retrieve the scripts that assign entities their different roles in the cybernetic border. Scripts are the scenes or scenarios played by human and nonhuman actors. They are retrieved through descriptions contained in the likes of technical reports, system diagrams, demonstrations, and footage of operations.[83] Actors design the cybernetic border with specific roles in mind for entities—some perform the role of hunters or predators, and others are the prey or target. Design of the system is the kind of upstream work that prescribes positions well before any scripts are performed.[84] Prescriptions expose the actions they validate and their intended goals, which is to say their technopolitics. Chapters 1 through 3 scrutinize the prescriptions performed during Air Force military exercises, the operation of the intrusion detection system, and the experimental deployment of UASs in border enforcement. These scripts, like those in the demonstration of Anduril's Lattice system, reveal the biopolitical project of the US empire-nation in its treatment of Mexican migrants and unauthorized border crossers as enemies of the nation. Treated as enemies, these populations were pushed toward a mode of social existence that made them into expendable lives. They mattered only to the extent that they justified the construction and operations of the cybernetic border. Their lives, on the other hand, did not matter, and as a result, they were driven toward the lethal border landscape.

The operations of scripts throughout this book reveal how actors in the network are differently situated and engaged. Unauthorized border crossers are not just one more actor in the network of the cybernetic border. They are the targets of racializing assemblages that police the bounds of modern selfhood, of who is legible and liable for rights under the law. Of greater concern here is the fact that not all humans equally participate in the network. Racializing assemblages, Weheliye argues, "discipline humanity into full humans, not-quite-humans, and nonhumans."[85] To a large degree, this is the result of a Western philosophical tradition that cannot evacuate its pro-

vincializing boundaries. The Manichean sciences such as cybernetics and computer science cannot evade their entanglement with the abstraction and calculation of humanity and the targeting of enmity that are central to the machinations of border technopolitical regimes.

Imperial formations operate through archival logics that gather, draw together, connect, and disconnect entities by treating them as information.[86] The cybernetic border, as an imperial and settler colonial apparatus, is equally concerned with records, storage, and informational flows that simultaneously document, afford, and execute control. As I reconstituted the fragmented archive of the cybernetic border, I often found documents discussing, debating, and describing how bodies are identified, recognized, and policed during their attempts to cross the border without authorization. In making sense of the practices of these bodies, the actors made them intelligible and manageable. These are some of the organizing principles and the raison d'être for the archives of imperial formations. In the case of INS/DHS, their archival logics revolved around surveillance, social control, and expanding or negotiating the boundaries of US sovereign power. Engaging the materials of imperial formations means there is an ongoing potential of reifying their logics.[87]

Relying mostly on government archives calls for a reflexive approach that is attuned to each agency's archival logic while reading "along the archival grain." Doing so is not to assume a seamless texture in the ways that actions unfold. Instead, it is to acknowledge the fact that the archive is a rough "field of force and will to power."[88] Human actors, especially the most vulnerable people, might seem to be missing from this story. I propose, however, that they are at the core of the operations of the border technopolitical regime—in how it construed the boundaries of humanity and the nation, and in its networked inscription of human actions and their categorical sorting. Analysis of the operations of this regime brings to the fore its frictions. People are central to the stories told in this book. They are figures of speech and the sources of said discourse. They are entities that challenge the imperial desire to make and govern populations and territories. They are the bodies pushed into the desert environment of the southern borderlands as well as those who jam the border machine's incessant politics of death. Human actors haunt the border technopolitical regime. "To write ghost stories," as sociologist Avery Gordon holds, "implies that ghosts are real, that is to say, that they produce material effects. To impute a kind of objectivity to ghosts implies that, from certain standpoints, the dialectics of visibility and invisibility involve a constant negotiation between what can be seen and

what is in the shadows."[89] This book is an effort to open the archival logics of the border technopolitical regime to understand its material effects. This pursuit inevitably demands attention be paid to the haunting (in)visibility of human actors and how bodies drop in and out of networked inscriptions.

The struggle of US actors to shape and engage an adversarial Other requires robust human-machine configurations. Government agents often describe these configurations in terms of platforms. *The Cybernetic Border* shows that the articulation of platforms of enmity is anchored to the fabrication of the empire-nation and the boundaries of its territorialized sovereignties and imagined community. Investments in border and immigration enforcement have not dwindled after the events discussed in this book. Elected and government officials continue to embrace the promise of technological mastery that companies like Anduril Industries profess. The budget for DHS has grown steadily since its first appropriation: from about $27 billion in fiscal year 2004 in net discretionary funds to about $54 billion in fiscal year 2021.[90] The deaths of unauthorized border crossers in the Sonoran Desert persist, despite claims by DHS officials that drones and other new technology are crucial to save lives. The politics of enmity undergirding the cybernetic border, part of a centenary project in imperial nation making, perhaps became only more pronounced during the Donald Trump presidency. The overall approach to border and immigration enforcement, however, has not changed in the last five decades—it is even more enmeshed with information technologies centered on data capture, processing, and communication. Technological failures accumulate even while the narratives of technological progress and the politics of enmity that feed the machines of US empire grow ever more deadly.