CONTENTS

INTRODUCTION

The New Normalcy

> During the past twenty years we have substituted for the normalcy of the halcyon 1920s an almost unbroken series of emergencies: depression, defense, war, inflation, cold war. Indeed, emergency appears to have become the new kind of normalcy. National emergencies tend to favor improvisation by government. Yet with all our improvising, our "putting out of fires," our apparent activation *by* events instead of deliberate activation *of* events, we have emerged with a discernible pattern of domestic and foreign policy and, most important, with an acceptance of the idea that government should consciously plan a strategy for anticipating and meeting domestic and foreign emergencies at the operational level.
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> —JAMES FESLER, SPEECH TO THE INDUSTRIAL COLLEGE OF THE ARMED FORCES, SEPTEMBER 4, 1952

In 1954, the United States' Industrial College of the Armed Forces (ICAF) published a massive multivolume tome, *Emergency Management of the National Economy*.[1] The ICAF volumes collected a series of lectures that had been delivered to military officers at the college, as well as a range of government documents that addressed ICAF's main concern: managing industrial mobilization for war. The fourth volume, dedicated to *Principles of Administration*, reproduced a lecture by political scientist James Fesler, a veteran of government reform during the New Deal and of mobilization planning during World War II.[2] Looking back on the previous two tumultuous decades, Fesler observed that the United States had emerged from an "unbroken

series of emergencies"—"depression, defense, war, inflation, cold war"—with a "discernible pattern" of emergency government. Its hallmark was a new norm: "government should consciously plan a strategy for anticipating and meeting domestic and foreign emergencies at the operational level." In the "new kind of normalcy" Fesler described, emergency government was no longer confined to exceptional situations. Rather, ongoing emergency preparedness had become a part of governmental routine.

More than six decades later, it is taken for granted that government bears responsibility for continuously anticipating and preparing for emergencies. This assumption has been evident in efforts to assign blame and bolster readiness following disasters such as the terrorist attacks of September 11, 2001, Hurricanes Katrina and Sandy, and, most recently, the Covid-19 pandemic. It is noteworthy, then, that in 1952, when Fesler gave his lecture, this governmental norm was neither established nor taken for granted. Rather, it was new and required explicit statement and elaboration.

It is also noteworthy that Fesler's discussion addressed a set of problems and institutional contexts that seem distant from our contemporary understandings of emergency management. Today, government offices tasked with managing emergencies are concerned with preparedness for events such as natural disasters, disease outbreaks, and terrorist attacks, as well as with response and recovery in the aftermath of such events. But in 1952, the object of emergency management was the national economy, and its central aim was military-industrial mobilization—marshaling raw materials, industrial facilities, and manpower to build the tanks, planes, munitions, and other supplies necessary for total war. In this sense, Fesler's speech points us to the specificity of the historical conjuncture during which new norms for managing emergencies were first articulated in the United States and were connected to forms of expert knowledge, administrative practices, and legal mechanisms. The topics addressed in *Emergency Management of the National Economy* suggest some of the issues that, in this now unfamiliar landscape, were initially clustered around emergency government: resource planning, economic controls, internal security, economic intelligence, air targeting, government reorganization, domestic vulnerability, and nonmilitary defense. And the government offices, commissions, and agencies whose work was either collected or discussed in the ICAF volumes—most long-since dissolved, and many virtually forgotten—provide a map of the institutional settings in which emergency government was addressed at this time. Among these were committees working on government reform and resource management during the New Deal; wartime and postwar

mobilization planning offices; air-targeting and strategic intelligence units in the military; and offices of civil defense and domestic preparedness of the early Cold War.[3]

If *Emergency Management of the National Economy* situates the history of American emergency government in relation to economic management and military-industrial mobilization during the Great Depression and World War II, it also marks a point of inflection. In the early 1950s, emergency government was already in the process of becoming something different and, from our contemporary perspective, more familiar. In the foreword to the ICAF tome, another veteran of wartime mobilization planning, Arthur Flemming, described this new horizon of emergency government. At the time, Flemming was serving as director of the Office of Defense Mobilization (ODM). Created in 1950 to lead civilian mobilization planning for the Korean War, ODM had by 1953 become the most important domestic preparedness agency in the federal government. Surveying the landscape of the early Cold War, Flemming offered a grim assessment of the current world situation. The United States, he wrote, was in an "age of peril." The advent of long-range bombers and atomic weapons confronted national security strategists with the specter of a sudden "devastating attack on the continental United States." In the event of such a sudden attack, the United States would not have time to mobilize its "material and human resources" over the course of months or years, as it had in the prior two world wars. Rather, Flemming argued, the country would have to shift immediately to war footing and would be faced with managing the consequences of a crippling initial blow. Adequately preparing the nation for this eventuality could "save an untold number of human lives" and ensure that the United States could "continue a substantial portion of our war production and production essential for the holding together of our civilian economy."[4]

In light of these concerns about a devastating enemy attack, during the 1950s the civilian mobilization planning agencies turned their attention to a novel task. If earlier these agencies were concerned primarily with military-industrial production during a long war fought overseas, then increasingly their focus shifted to preparedness planning to ensure the survival of the national population and recovery of the economy in the aftermath of a domestic catastrophe. It is indicative of this shift that, by the early 1960s, the Office of Defense Mobilization had evolved into the Office of Emergency Planning, which was in turn renamed the Office of Emergency Preparedness. In 1962, the director of this office, Edward McDermott, outlined the aims and means of emergency government as they had come to be understood

by this time. Citing a draft executive order issued by President John F. Kennedy, McDermott reported that he had been charged with coordinating the "national preparedness program," whose goal was to maintain a "state of readiness with respect to all conditions of national emergency." This meant, first and foremost, maintaining an "emergency management organization" that would be prepared to "handle the myriad of resource and economic problems necessary to save lives and sustain survival and expedite recovery." Reviewing these "resource and economic problems"—related to electric power, transportation, communications, food, and medical care—McDermott pointed to the vast scope of his office's concern. "We are really talking about the fundamentals of life on this earth," he intoned, "the elemental problems of safeguarding the food we eat, the fuel we consume, the transportation to maintain a steady flow of commerce, an intricate telecommunications system which will continue to function under all conditions, and perhaps most important, the foundation of constitutional government which underpins our way of life."[5] In sum, the Office of Emergency Planning was charged with sustaining the very biological and associational life of the American population during a future emergency.

In the decades since McDermott's speech, practices for anticipating and managing emergencies have continued to evolve, and the organization of emergency government has been frequently reshuffled. But McDermott's 1962 description of the task of governmental preparedness for emergency is strikingly similar to contemporary understandings. Emergency preparedness continues to focus on reducing the vulnerability of vital systems in anticipation of a range of potentially catastrophic future events, and on preparing for life-saving response and recovery in their aftermath. Thus, the Federal Emergency Management Agency's 2015 *National Preparedness Goal*—which currently guides governmental preparedness for events ranging from terrorist attacks to hurricanes and pandemics—refers to a "secure and resilient Nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk."[6] The emphasis now, as in 1962, is on what the Department of Homeland Security's 2017 guidance on critical infrastructure protection refers to as "the essential services that underpin American society and serve as the backbone of our nation's economy, security, and health"; "the power we use in our homes, the water we drink, the transportation that moves us . . . and the communication systems we rely on."[7] Today, as in the early 1960s, emergency preparedness aims to ensure governmental functions relating to "health and safety,"

"infrastructure systems," "hydration, feeding, and sheltering," that, in the wake of a future disaster, will be essential to "rapidly meeting basic human needs," "restoring basic services," "establishing a safe and secure environment," and "supporting the transition to recovery."[8] And as has been true since the beginning of the postwar period, emergency government today is not an *exception* to the normal operation of the state. Rather, it encompasses the management of unfolding emergencies and ongoing preparedness for future emergency situations as permanent functions of *normal* government.

A Genealogy of Emergency Government

This book examines the formation of American emergency government in the middle decades of the twentieth century. It follows the process through which a governmental apparatus initially assembled to manage economic depression and industrial mobilization for war mutated into an apparatus of emergency preparedness for domestic catastrophe. The account presented in this book is a genealogy of emergency government that traces how now-familiar forms of knowledge, practices, and norms first came into being.[9] It is only relatively recently, we suggest, that we have come to understand and organize emergency government as a matter of reducing the vulnerability of vital systems, and it is only recently that preparedness for events that might disrupt these systems has become a basic obligation of government.

This genealogical approach to the study of emergency government can be usefully distinguished from histories of the field of disaster preparedness and emergency management, which follow the changing forms of knowledge and governance that have been applied to a certain class of phenomena—disasters. For example, in *Acts of God*, historian Ted Steinberg traces how the US government has understood and managed (or failed to manage) natural disasters such as floods, earthquakes, and storms, from the early days of the American republic to the present.[10] Scott Knowles, in *The Disaster Experts*, constructs what he calls a "disaster chronology" over roughly the same period, tracking how experts have made "the knowledge and control of disasters their special concern."[11] In contrast to such historical studies of disaster and disaster management, a genealogical approach asks how a range of seemingly disparate phenomena, from nuclear attacks and economic shocks to hurricanes and disease outbreaks, have been *constituted* as common types of events that present similar kinds of problems. Thus, the title of this book—*The Government of Emergency*—does not refer to the way that a pregiven class of events or situations has been governed. Rather, it refers to

a form of political rationality, which we understand, following sociologist Nikolas Rose, as an "intellectual machinery or apparatus for rendering reality thinkable in such a way that it is amenable to political programming."[12]

As Rose suggests, political rationalities have both normative and epistemological dimensions. On the one hand, a given political rationality entails specific assumptions about the "proper distribution of tasks between different authorities" and the "ideals or principles to which government should be addressed." Thus, it implies certain presumptions (however contested and unstable) about what government is, what it should do, and what its limits should be. On the other hand, a political rationality involves a distinct "style of reasoning," that is, a body of "intellectual techniques for rendering reality thinkable and practicable, and constituting domains that are amenable—or not amenable—to reformatory intervention." Importantly, a style of reasoning entails specific "conceptions of the objects to be governed," whether the national economy, the population, or the vulnerable, vital systems on which the economy and the population depend.[13]

One strategy of genealogical research is to paint a "before and after" picture that aims, as Ian Hacking has put it, "to permanently fix in the mind of the reader the fact that some upheaval has occurred"—a momentous shift in ways of thinking and governing.[14] Our account is framed by such a conceptual and political "upheaval," in which new objects, aims, and practices of government came into being over a relatively brief period. But we also present a detailed account of *how* this momentous shift unfolded. We focus on specific organizations and on historically situated actors as they took up existing ways of knowing and intervening, or invented new ones, to address novel problems.[15] Through these often-mundane practices, a new political rationality—and indeed, we suggest, a new dimension of political modernity—took shape over the period spanning roughly from the Great Depression through the early Cold War.

The first part of the book examines the period from the 1930s to the early 1940s, in which the federal government faced two conditions of "national emergency": the Great Depression and World War II. During this period, emergency government largely involved *economic* interventions to ameliorate the Depression and to manage industrial production for total war. Chapter 1 follows the work of experts in a succession of domains—from city and regional planning to economic management, wartime mobilization, and air targeting—as they constituted vital systems as objects of systematic knowledge and as targets of intervention. Chapter 2 describes a parallel process through which government reformers invented administrative devices and

organizational forms to address the economic emergencies of depression and war. It focuses in particular on how these reformers addressed the tensions between liberal constitutionalism and crisis government by assembling what they called an "administrative machinery" to organize and prepare for emergency situations.

The book's second part is situated in the years immediately after World War II, a period of heightening concern about the prospect of an enemy attack on the continental United States that would cripple military-industrial production systems. Chapter 3 shows how civilian experts and military officers developed systematic knowledge about American economic and infrastructural vulnerability and devised practices and understandings that would constitute a new kind of expertise—and a new kind of expert, the "vulnerability specialist."[16] Chapter 4 turns to the first efforts to develop techniques for reducing this vulnerability and preparing to manage the consequences of a massive attack. It examines postwar mobilization planning agencies, where experts and officials reoriented the existing institutions and practices of emergency government. If previously these institutions had focused on economic management of the unfolding emergencies of depression and war, their objective now shifted to preparing for a future war. Emergency government was thus becoming a matter of ongoing *peacetime* preparedness.

Part III traces a further shift in American emergency government that took place during the 1950s. As nuclear weapons and delivery systems grew increasingly powerful, mobilization planners deemphasized readiness to ramp up industrial production for a long war. Instead, they turned to the task of ensuring the continuous functioning of vital systems that would be required to sustain human life, economic activity, and governmental operations in the unprecedented conditions that would result from a thermonuclear attack. Chapter 5 examines the practices of "administrative readiness" developed by mobilization planners to prepare for government operations in a future emergency, culminating with a description of Mobilization Plan D-Minus (1957)—the first plan for national emergency preparedness in the United States. Chapter 6 focuses on one dimension of such national preparedness planning: the management of resources such as food, medical supplies, and services that would be essential to the population's postattack survival. The chapter traces how mobilization planners used the new tool of computer simulation to envision and prepare for an unprecedented future event—a catastrophic nuclear attack.

By the late 1950s, emergency government, which had previously focused on alleviating economic depression and mobilizing for war, had mutated

into emergency preparedness for a future domestic catastrophe. A coherent set of understandings, practices, and organizational forms had consolidated into an apparatus that continues to structure emergency government—in the United States and beyond—to the present day. In the next two sections, we outline the broader conceptual and theoretical significance of this mutation in governmental rationality. First, we introduce the concept of vital systems security as a form of "reflexive biopolitics," oriented to the management of uncertain and potentially catastrophic future events. We argue that, beginning with the midcentury episodes we examine, securing the nation's vital systems has become a central norm of modern government. Second, we describe how American emergency government took shape as a response to the challenge that increasingly common use of emergency powers during war and economic crisis posed to democratic government. In these contexts, reformers assembled a political technology for governing emergencies that, they thought, would make it possible to avoid recourse to exceptional measures that would undermine constitutional democracy.

Vital Systems Security

In 1984, applied mathematician and security expert Robert Kupperman published *Technological Advances and Consequent Dangers*, a working paper for the Center for Strategic and International Studies, a think tank based in Washington, DC.[17] Kupperman's essay was a far-reaching reflection on the vulnerability of vital systems as a central problem of national security. For our purposes, Kupperman's paper indicates how system vulnerability was linked to a broader problematization of risk and security in modern societies.

For millennia, Kupperman argued, human beings had faced relatively localized and "self-extinguishing" threats that were "dissipated by the distribution of cultural assets, by the existence of physical and psychological 'hinterlands,' and by the cushioning function of institutional diversity and independence." Even the cataclysm of World War I was a contained event. "Diversities, distances, and differences, systematic inefficiencies of civilization in themselves," he argued, "provided the recuperative forces necessary to maintain continuity." But in the intervening years, the "extension of technology in the service of civilization" had enabled human beings to move "into every suitable niche, and even into some not so suitable." The increasingly "efficient, economical infrastructure" required to sustain this process carried with it an unacknowledged price. "Modern technological efficiency in the provision of food, water, energy, medicine, transport and

communication," he wrote, has been "oriented toward economic affordability without much attention to complex network fragility." Pointing to the "interlocking technologies" that underpin the "fragile dynamic cycle of production, transportation, and consumption" in contemporary societies, Kupperman argued that the "greater a society's dependence for survival on its technological infrastructure, the greater its vulnerability to a collapse triggered naturally or artificially at a key point." Like biological organisms, contemporary human societies could not manage "fundamental system failures multiplying at a biological rate." "A critical point is reached," Kupperman warned. "A cascade of organ-system failures ensues, and death comes quickly." Modern civilization, in developing technologies oriented to furthering the "ends of human life," had created a system whose "success and importance to social survival make it, ironically, one of society's greatest weaknesses."[18]

In the 1970s and 1980s, the kinds of hazards that Kupperman identified—what sociologist Ulrich Beck describes as "modernization risks"[19]—were taking on a new kind of public and political life. Economic and energy shocks, environmental crisis, and terrorism garnered increasing attention alongside the paradigmatic specter of catastrophic risk, thermonuclear war, which raised the prospect, for the first time, of self-inflicted human extinction.[20] Kupperman's reflections are especially significant for our story given his career trajectory, which passed through some of the mostly forgotten technical domains in which, we show in this book, the vulnerability of vital systems was identified and addressed as a matter of governmental concern. In 1980, Kupperman served the incoming Ronald Reagan administration as the head of the transition for the Federal Emergency Management Agency (FEMA), which President Jimmy Carter had created by executive order in 1979. Prior to that, during the 1960s and early 1970s, Kupperman had worked in one of FEMA's predecessors, the Office of Emergency Preparedness (OEP). As director of the Systems Evaluation Division within OEP, Kupperman oversaw studies on "the impact on the Nation's security and economy created by emergency contingencies of both military and nonmilitary nature," examining issues such as natural disaster assistance, the continuity of government, damage assessment, resource management, and the "survivability of networks related to national preparedness."[21]

The arc of Kupperman's career points us to a broader question: How did it become possible to understand collective existence in the United States as dependent on a complex of vital and vulnerable systems, and how did the protection of such systems come to be a taken-for-granted obligation

of contemporary government? In the chapters that follow we show that, for nearly a century, a persistent discourse has examined collective life from a particular point of view: the vulnerability of modern society and economy to disruption of the vital systems on which they depend. And since at least the early Cold War, the federal government has been concerned with ensuring the continuous functioning of such systems in the face of catastrophic threats. Today, this problem of "vital systems security" is a central object and aim of government, defined in legislation, executive orders, and broad statements of security strategy.

REFLEXIVE BIOPOLITICS

We analyze the emergence of vital systems security as the product of a mutation in the government of modern life. Specifically, it marks a *reflexive* moment in the history of "biopolitics"—that is, the government of human beings in relation to their biological and social existence. Michel Foucault famously coined the term "biopolitics" to mark a shift, dating roughly to the late eighteenth century, in the aims and objects of government in European countries: from the "classical sovereignty" of the European territorial monarchies to a new governmental concern with ensuring the health and well-being of national populations.[22] Classical sovereignty, Foucault argued, ruled "from the standpoint of the juridical-political notion" of the legal subject. Diplomatic, military, and police apparatuses—elements of what might be called "sovereign state security"—aimed to ensure the security of the state itself in the face of foreign and domestic threats. By contrast, biopolitical government is exercised over the population—a collection of living beings understood as a "technical-political object of management." Foucault traced the "birth of biopolitics" to late eighteenth- and early nineteenth-century Europe, when government authorities sought to manage the health and welfare of populations in growing urban centers. The rapid growth of towns, the expansion of industry, the intensification of trade, and increasingly crowded living conditions posed "new and specific economic and political problems of governmental technique." In response, officials, planners, and experts in the nascent human sciences invented new forms of knowledge about—and devices for governing—the "fine materiality of human existence and coexistence, of exchange and circulation."[23] As Foucault emphasized, the point is not that the birth of biopolitics displaced prior mechanisms of sovereignty; indeed, particularly with the advent of total war, threats to sovereignty were a key catalyst for the development of biopolitics. Rather, the

theme of biopolitics designates the interplay between the exercise of juridical power over legal subjects and the technical management of living beings.

Building on Foucault's analysis, scholars have traced the development of biopolitical government in a range of domains from the early nineteenth century. In efforts to reduce the toll of epidemics, organize conscription for war, or manage economic fluctuations, government bureaucracies generated vast amounts of data about phenomena such as birth, illness, and death; suicide and crime; and levels of production and employment.[24] This "avalanche of numbers," as Hacking puts it, made possible a new, statistical understanding of collective life.[25] The technical and political category of risk played a central role in this development, enabling experts and government officials to quantitatively analyze how phenomena such as crime, illness, accident, and poverty were distributed over a given population, and to assess the costs and benefits of measures to minimize these risks.[26] New governmental apparatuses in areas such as economic regulation, urban planning, and public health specified and managed these problems. As Foucault describes this complex process, a "constant interplay between techniques of power and their object" served to "carve out" the population and its specific phenomena (birth and death rates, disease processes, etc.) as a "field of reality."[27]

We take up this story of biopolitical modernity at a later conjuncture and in a different locale. Beginning in the early twentieth century, American planners and policymakers in various domains argued that with the development of mass industrial and metropolitan societies, the interdependencies that made modern collective life possible also rendered it vulnerable to catastrophic disruption from events such as economic shocks, industrial accidents, or wars. Over the following decades, experts and officials addressed this vulnerability by devising new ways to anticipate and mitigate the effects of such events, to reduce the vulnerability of vital systems, and to make society resilient to shocks.[28]

The first governmental apparatus for securing vital systems was assembled in the 1950s. In the early Cold War, planners and officials working on nuclear preparedness brought together a set of elements—knowledge forms, techniques of intervention, and organizational arrangements—that constituted system vulnerability as a target of governmental intervention. Like the demographers, public health experts, and urbanists of the nineteenth century, mobilization planners produced an "avalanche of numbers" about collective existence, not through statistical analysis of populations but by using scenarios, catastrophe models, and vulnerability assessments. Through this process, society became vulnerable in a novel way. Like the figure of

population a century earlier, a new figure of collective life—the vulnerable, vital system—was "carved out" as an object of expert knowledge, technical intervention, and political concern.

By the late twentieth and early twenty-first centuries, this apparatus of vital systems security had been extended into new domains, including natural disaster response, pandemic preparedness, the management of economic crises, and homeland security.[29] This is not to say that vital systems security displaced prior forms of security or became the dominant form of collective security. As we will show, vital systems security emerged and consolidated in complex relation to sovereign state security and population security. Thus, the officials and planners in the 1950s-era Office of Defense Mobilization viewed the task of ensuring the functioning of vital systems in the wake of a nuclear attack as a matter of sovereign state security—prevailing in a future war.[30] Meanwhile, vital systems security has become central to many domains of biopolitical government, including the provision of population security in areas such as public health, urban planning, and economic governance. Indeed, we suggest that vital systems security should be understood as a form of "reflexive biopolitics." It shares the aim of population security: ensuring the health and welfare of populations. But these two forms of biopolitical security differ in their objects of concern, knowledge practices, and norms (see table 1). Whereas population security addresses regularly occurring events that can be managed through the distribution of risk, vital systems security deals with events whose probability cannot be precisely calculated, but whose consequences are potentially catastrophic. Vital systems security does not rely on statistical analysis of past events, but rather employs techniques of enactment such as catastrophe models and scenario-based exercises to simulate potential future events and thereby generate knowledge about present vulnerabilities.[31] Its interventions seek to increase the resilience of critical systems and to bolster preparedness for future emergencies.

A NEW POLITICAL RATIONALITY

Our claim is not that governmental concern with vital systems is itself novel. Governments have long been concerned with vital systems like roads, communication networks, and large systems of water management. The construction and control of transportation, energy, and communication systems—what has only recently come to be called "infrastructure"—is

TABLE 1. Three forms of security

	Sovereign state security	Biopolitical security	
		Population security	Vital systems security
Moment of emergence	Seventeenth century—absolutist states	Nineteenth century—social insurance, public health	Mid-twentieth century—nuclear preparedness
Aim	Secure sovereign power against internal and external threats	Manage regularly occurring threats such as endemic disease, poverty, and infirmity	Reduce vulnerability, prepare for future emergencies
Object of concern	Sovereign power: military strength, internal order, wealth	Social processes: economic production, circulation of goods and people	Vital systems: webs of industrial production, critical infrastructures, essential services
Forms of knowledge	*Raison d'état*: external balance of power, internal bases of sovereign power	Statistics, demography, epidemiology, social sciences	System-vulnerability thinking, catastrophe models, scenario-based exercises
Characteristic apparatuses	Diplomatic corps, militaries, mercantilism	Social insurance, infrastructure development	Governmental preparedness, emergency management

found in all large-scale complex societies.[32] Territorial empires have for centuries recognized what were referred to as "communications" as essential to prosperity and security. And military strategists have long been concerned with the importance of transportation and communication for military lines of supply; the military tactic of blockade goes back millennia.[33] But from the late nineteenth century to the mid-twentieth century, we observe a significant intensification and modulation of these concerns. In particular, three features distinguish vital systems security as a political rationality and delimit the conceptual and empirical scope of this book: first, its relationship to biopolitics; second, the emergence of specialized expertise about vital systems; and third, the consolidation of a new political norm—that governments must ensure the ongoing functioning of vital systems in the face of catastrophic threats.

Vital systems and modern biopolitics. First, we can refer to vital systems security in the sense we use the term here only with the emergence of

modern biopolitics. Electricity networks, railroads, and complex chains of production became "vital systems" when they were linked to newly constituted problem domains such as the national economy or social welfare.[34] Although this development can be traced to the late nineteenth century, particularly in European contexts,[35] our narrative begins in the United States in the first decades of the twentieth century. We focus on two apparently disparate fields: regional planning and strategic bombing theory.[36] Experts in these fields initially used biological metaphors to illustrate the dependence of collective existence on what Muir Fairchild, an instructor at the US Army's Air Corps Tactical School in the 1930s, called "life-sustaining vital systems."[37] Fairchild's term suggested that, like the failure of vital organs or the breakdown of circulatory systems in a biological organism, the disruption of such systems would be catastrophic to the social body. As another Air Corps instructor put it in 1938, as the United States had "grown and prospered in proportion to the excellence of its industrial system," it had become "more vulnerable . . . to wartime collapse caused by the cutting of one or more of its essential arteries."[38] The use of such biological metaphors would fade over time (though never disappear, as Kupperman's 1984 report demonstrates). But from the case studies of the Air Corps Tactical School and the quantitative analyses of "criticality" and "essentiality" in wartime and postwar facilities ratings to contemporary assessments of critical infrastructure vulnerability or resilience, experts have defined the "vitality" of vital systems, and the threat posed by their disruption, in terms of these systems' role in the health and well-being of populations—the central concerns of biopolitical government.

System vulnerability expertise. Second, vital systems security is distinguished by the development of specialized knowledge that constitutes vital systems and their vulnerability as objects of expert analysis and rational-technical intervention. By the mid-twentieth century, technical specialists and officials working in mobilization and air-targeting agencies had devised new practices for assessing vulnerability and preparing for future events that might disrupt the nation's vital systems. This new form of expertise rested on the accumulation of a vast amount of information about American natural resources, productive facilities, and public works—what President Franklin Delano Roosevelt referred to in 1935 as an "inventory of our national assets."[39] Such expertise also drew on techniques for analyzing the interrelationships among the elements that this "inventory" comprised. Although specialists from many fields were involved in constituting vital systems—and

the vulnerability of these systems—as objects of systematic knowledge, economists played a particularly prominent role. Economists first appear in our account during the New Deal, inventing a "science of flows" to analyze how shocks would propagate through the economic system, whether these shocks resulted from a plunge in demand during economic downturns or from a surge in demand caused by government stimulus policies or wartime mobilization. A number of these New Deal economists then migrated to air intelligence offices during World War II, where they developed an "economics of strategic target selection" to assess the vulnerability of enemy production systems and to recommend bombing targets.[40] A decade prior to the development of "systems analysis" at the RAND Corporation in the 1950s, these mobilization planners and air intelligence specialists established methods for the quantitative analysis of military-industrial complexes as ensembles of interlocking vital systems.[41]

In the closing years of World War II and the early Cold War, technical experts coupled the analysis of vital systems with new methods for modeling how a catastrophic event—such as an incendiary bombing attack on a city (during World War II) or an atomic detonation (after the war)—would unfold in space. As we show in chapter 3, these experts produced a new kind of knowledge about vital and vulnerable systems. Initially, military analysts in air intelligence units used graphical techniques such as maps and transparent overlays to generate assessments of urban and industrial vulnerability. By the mid-1950s, vulnerability experts had replaced maps and physical overlays with digital computers and geographically tagged data sets—a precursor of geographic information systems (GIS). The advent of computer simulation added another dimension to vulnerability analysis. By incorporating randomization procedures and multiple simulated runs in their models, vulnerability specialists could account for uncertainties about how a future attack would unfold. These simulation techniques—initially used as speculative "experiments" or "war games"[42] as part of nuclear preparedness planning (see chapter 6)—have come to be accepted in various domains as authoritative tools for generating knowledge about uncertain future events.[43]

Vital systems security as political obligation and norm. Third, and finally, vital systems security refers to an increasingly taken-for-granted norm of politics. After World War II, the task of ensuring the continuous operation of vital systems and managing the risk of catastrophic disruption came to be accepted as a basic obligation of sovereign government. This was not the first

time that the US government was expected to deal with the consequences of domestic catastrophes. As Michele Landis Dauber has documented, there is a long American tradition of federal relief following disasters.[44] But prior to the middle of the twentieth century, these governmental responses were ad hoc, organized in the wake of what were understood to be unforeseeable "acts of god."[45] Only in the last several decades has government been held responsible for preparing *in advance* of future catastrophes that can be anticipated if not precisely predicted. And only in the last several decades has this obligation been addressed, at least in part, by technical measures that aim to ensure the functioning of vital systems.

The first statutory mention of this new governmental obligation (discussed in chapter 4) was in the 1947 National Security Act. The Act created a new peacetime mobilization agency—the National Security Resources Board (NSRB)—and charged it with undertaking measures to protect "industries, services, Government and economic activities" whose "continuous operation" Congress deemed "essential to the Nation's security."[46] The NSRB was a defense mobilization agency, in which the norm of "preparedness" still referred to military-industrial readiness for war. But planners working in government agencies charged with preparedness gradually adapted these techniques to address other kinds of potentially catastrophic events, such as hurricanes, floods, and infectious disease outbreaks. By the 1960s, the norm of preparedness could refer to any event that might catastrophically disrupt the nation's vital systems. The organization of responsibility for emergency preparedness has shifted almost constantly over the subsequent decades, and attention to this problem has ebbed and flowed. But the task of ensuring the continuous operation of vital systems is now a virtually unquestioned—if not always successfully met—obligation of contemporary government.

An "Administrative Machinery" for Governing Emergencies

The prior section described how experts and officials constituted system vulnerability as an object of specialized knowledge and a target of governmental intervention during the Depression, World War II, and the early Cold War. But on its own, this description of expert knowledge and technical interventions is too serene. It is too serene, in part, because these "interventions" into vital systems were closely linked to projects—whether war mobilization, strategic air targeting, or nuclear preparedness—that involved the mass slaughter of civilians, the annihilation of cities, and,

after World War II, the prospect of nuclear holocaust.[47] It is also too serene because the developments we have described corresponded to an upheaval in American government. Technical experts and government officials often instituted the mechanisms of vital systems security through "emergency" measures that challenged American political traditions, such as deference to legislative prerogative and judicial precedent, as well as a diffuse and decentralized pattern of sovereignty. An account of the emergence and consolidation of vital systems security must, therefore, address the fraught relationship between emergency powers and constitutional democracy.

As a point of entry into these questions, we turn to the writings of a prominent midcentury American commentator on crisis government, political scientist Clinton Rossiter. Rossiter began his seminal study *Constitutional Dictatorship*, published in 1948, with a question that President Abraham Lincoln had posed at the outset of the American Civil War. "Is there in all republics," Lincoln asked, "this inherent and fatal weakness? Must a government be too *strong* for the liberties of its people, or too *weak* to maintain its own existence?" Had Lincoln been alive on the eve of World War II, Rossiter observed, he could have "framed his question in more modern terms." Was it possible for a democracy to "fight a successful total war and still be a democracy when the war is over?" For Rossiter, writing just after the end of World War II, the "incontestable facts of history" had provided an answer. "We have fought a successful total war," Rossiter declared, "and we are still a democracy." In this "severe national emergency," the US government had employed "devices and techniques" that made it "strong enough to maintain its own existence without at the same time being so strong as to subvert the liberties of the people it has been instituted to defend."[48]

In what follows, we show that the "devices and techniques" Rossiter referred to were the product of efforts by governmental reformers who, during the New Deal and World War II, sought to meet the challenge that, they thought, emergency situations posed to constitutional democracy. These reformers assembled what Rossiter called an "administrative machinery" that would enable the US federal government, especially its executive branch, to manage emergency situations through expert rule without recourse to an extra-constitutional state of exception. They believed, like Rossiter, that in an era of pervasive doubt about the prospects for democracy, they had successfully responded to the "taunt of the dictators" that "democracies cannot meet the demands of the modern world and still remain democratic," as the reformer Luther Gulick put it in 1941.[49] Our aim in describing these reformers' efforts is not to assess the validity of such claims. Rather, it is to

reconstruct how they formulated and sought to address the problem that emergencies posed to democratic constitutionalism. Their responses shaped a distinctive political technology for governing emergency situations.

DEMOCRACY, EMERGENCY, AND THE MODERN AMERICAN STATE

Our account begins in the early twentieth century. At this time, Progressive reformers argued that, as Charles Merriam put it in 1933, governments had "to undertake new activities" to address intensifying processes of urbanization and industrialization. Among these new activities were the management of "public welfare, including education, recreation, health, social relief, and welfare planning"; the construction of public works, such as "highways and aid to communications"; and the "central control over social and economic forces."[50] The challenge, Merriam and other reformers held, was that American governmental institutions, which were set up when the United States was a largely rural and sparsely populated country, were ill suited to the functions required of what they referred to as a "positive state" that was involved in managing the health, well-being, and conditions of existence of a rapidly growing and an increasingly urban population. Merriam described this mismatch as "social lag" and argued for governmental "adjustment."[51] On the one hand, technical experts would have to play an expanded role in political administration. On the other hand, such an "adjustment" would require a significant shift in the locus of political authority: centralization to address issues that crossed local jurisdictional boundaries and decisive executive leadership to manage urgent social and economic problems.

In the early decades of the twentieth century, administrative reformers succeeded in instituting significant changes along the lines Merriam and other Progressives prescribed. Initially, their efforts focused on state and local governments, as they sought to deal with the growing pressures of urban growth and industrial expansion. By the 1930s, in the context of the New Deal, these reformers turned their attention to the national level and the federal government, where they confronted the "emergency" situations of the Great Depression and World War II. Between 1933 and 1945, federal agencies took on a vast range of new functions relating to the provision of social welfare, economic management, and industrial mobilization.[52] To better equip the federal government—particularly the executive branch—to meet these new demands, Progressive reformers working in and around the Roosevelt administration pushed through a series of laws and administrative changes. Partly as a result of their efforts, the American presidency, which

began the 1930s as a solitary office with a small staff, emerged from the war as a powerful office that oversaw an array of agencies, wielding formidable discretionary powers.[53] New expert bodies were scattered throughout the executive branch, and new mechanisms of rational-technical administration were woven into laws and regulations.

Political commentators of the 1940s and 1950s were acutely aware that the economic and military emergencies of the period had wrought dramatic changes in the structure of US government. In 1950, Rossiter wrote that the "startling succession of major emergencies" had produced an "extraordinary expansion in the authority of the national executive, in both relative and absolute terms." The presidencies of 1933 and of 1945, he observed, were two "perceptibly different offices, in fact as well as constitutional theory."[54] In 1952, James Fesler also linked the "unbroken series of emergencies" of this period to a dramatic transformation of the American state.[55] "One of the most striking changes occurring in the form and functions of the American Government in the present century," Fesler argued, "has been the rapid growth . . . of governmental administrative activities." The federal government had "entered into a new world of administrative empires, alphabetic agencies, organizational charts, high and low levels or echelons, coordinators and expediters—all explained in strange terms of technical official rhetoric."[56]

In the last seventy years, scholars have continually returned to these episodes in which, to modify Charles Tilly's phrase, the emergencies of economic depression and total war (and later, Cold War) made the modern American state.[57] Our book addresses a more specific question that has received less attention: How did these events shape the American *emergency* state with which we are familiar today, whose major concern is reducing the vulnerability of vital systems and preparing for events that threaten to disrupt the operation of these systems? To answer this question, we turn from the broad problem of governmental "adjustment" to the specific challenge that, reformers thought, emergencies posed in the first half of the twentieth century.

CRISIS GOVERNMENT: "RATIONALISM, TECHNICALITY, AND THE EXECUTIVE"

Historians have documented a significant shift in the range of situations in which governments invoked emergency powers in the early twentieth century, both in Europe and in the United States. Previously, governments most frequently drew on emergency powers to address wars, rebellions,

and other threats to state sovereignty. By contrast, in the first decades of the twentieth century, governments increasingly invoked emergency powers in response to events such as labor strikes, financial crises, and economic downturns, in which a direct threat to sovereignty was absent.[58] Notably for our purposes, governments often drew on emergency powers to address threats to the functioning of vital systems in urban and industrial societies. The British Emergency Powers Act of 1920, for example, authorized actions to limit strike activity that interfered "with the supply and distribution of food, water, fuel, or light, or with the means of locomotion."[59] Emergency measures in the United States addressed similar problems. As historian Harold L. Platt has documented, the surge in demand produced by industrial mobilization during the World War I resulted in "terrifying famines of food and fuel" in cities, which were "exacerbated by a virtual gridlock of the nation's transportation."[60] Wartime emergency measures such as price and production controls addressed such breakdowns in vital systems.

If threats to the functioning of vital systems presented governments with novel technical problems, they also presented a political challenge. Was constitutional liberalism compatible with the decisive executive action and rational-technical administration required to manage crisis situations? This question was most famously posed by German jurist Carl Schmitt in his writings of the 1920s and 1930s. American reformers were aware of and on occasion referred to Schmitt's arguments in their own reflections on emergency powers and democratic government. For our purposes, Schmitt's analysis of political authority in crisis situations allows us to pinpoint the fundamental problem that these reformers identified with the exercise of emergency powers in a democracy.

In his 1921 study *Dictatorship*, Schmitt outlined the challenge that emergency situations posed to liberal constitutional government.[61] With their emphasis on deliberation, legislative prerogative, democratic rule by the governed, and deference to precedent and legal norms, Schmitt argued, liberal constitutional governments were rigidly oriented to the past. This orientation was adequate to normal politics, when governments were dealing with familiar situations whose contours could be anticipated based on prior experience. But it was inadequate when governments faced economic shocks, political insurrections, and wars, which demanded a future-oriented form of executive power that could decisively respond to the ever-changing and unforeseeable demands of an emergency situation.[62] "If the concrete means of achieving a goal can, under normal circumstances, be predicted with regularity," Schmitt wrote, then in "cases of emergency" government

had to "do everything that is appropriate in the actual circumstances."[63] Emergency government, for Schmitt, could be conducted only through discretionary executive authority based on the rational-technical—rather than charismatic and political—"needs" of a situation. It required rule by "dictate" and, crucially, *according to* the "dictates" of a given crisis as it unfolded. It is this model of emergency government that Schmitt referred to as "dictatorship," based on the model of the Roman "commissarial" dictatorship, which was appointed for the duration of an emergency. For Schmitt, "dictatorship" did not imply an absence of constitutional or legal constraints. Rather, it referred specifically to the rational-technical character of discretionary executive authority: the actions of a dictator could be judged only by asking "whether the means, in a very technical sense, are appropriate or not—that is, whether they have achieved their goal." In this sense, dictatorship was for Schmitt a "political technology" of crisis government, a particular way of arranging "rationalism, technicality, and the executive."[64]

The question that American reformers raised about the "adjustment" of governmental institutions to an urban and industrial society resonated deeply with Schmitt's analysis: How, in liberal democracies, could technical rule and executive power be mobilized to address the distinctive challenges that confronted modern states? And some of these reformers, in seeking out models for emergency government under these circumstances, followed Schmitt in looking to the Roman model of the commissarial dictatorship. This was true not only of academic observers like Rossiter—who wrote extensively on the Roman institution in the 1940s—but also of the administrative reformers who were directly involved in assembling the institutions of American emergency government in the 1930s. Thus, Charles Merriam analyzed the Roman conception of dictatorship as early as 1900 in his study *The History of the Theory of Sovereignty Since Rousseau*. He returned to the concept again in *The New Democracy and the New Despotism*, written in 1939, when, significantly, legislation to adjust the American executive to meet the demands of emergency situations was under debate. Defending the concept "in its historic sense" (and citing Schmitt's 1921 study), Merriam wrote that dictatorship was a "temporary device to meet an emergency," one that was fully compatible with democratic government. "Pestilence, war, famine, flood, panic, depression," he explained, "are crisis moments when decisionism is concentrated in the hands of one or a few who may act before it is too late."[65]

If Schmitt's analysis in *Dictatorship* helps us to pinpoint how American reformers framed the problem of crisis government—as a matter of finding

an accommodation between executive power, rational-technical rule, and constitutional democracy—it also casts these reformers' distinctive response to this challenge in relief. Schmitt had drawn a distinction between a "commissarial" dictatorship—based on the Roman model—and what he called a "sovereign" dictatorship. A commissarial dictator was created by legislative decision, hemmed in by the constitution, and limited to the duration of a given crisis. Meanwhile, sovereign dictatorship—which Schmitt soon came to favor—stood entirely outside of law and the constitution. For American governmental reformers, in contrast, the problem was not one of choosing *between* these two models of dictatorship, since they considered "sovereign" dictatorship to be unacceptable in the American governmental system. Rather, they sought to design a form of commissarial dictatorship that was compatible with US political institutions. Rossiter, who wrote extensively on this problem after World War II, argued that in drawing a broad distinction between commissarial and sovereign dictatorship, Schmitt had lumped together a vast range of "heterogeneous offices under the former category."[66] Referring to debates about emergency powers in Weimar Germany (a key point of reference for Schmitt[67]), Rossiter found it strange that so much "energy should have been expended on this question of how much of the Constitution could be disregarded by a President in the use of emergency powers and so little in working out a law that would have settled many of the uncertainties and ambiguities" about the nature of emergency powers and how they would be marshaled.[68]

This precise problem was the focus of American reformers' attention beginning in the late 1930s. In contrast to Schmitt's "latitudinarian" view of the emergency powers implied by a commissarial dictatorship,[69] American reformers labored to define the particular techniques and organizational forms of emergency government, and to specify how these would be constrained by statutory provisions, governmental checks, and constitutional restraints. In this sense, as Kim Lane Scheppele has noted, these mechanisms of emergency government were "crucially non-Schmittian" because they were never "outside the law." Instead, they were based on "alternative forms of legality" that were lodged within the "processes of normal governance."[70]

The American approach to emergency government was not planned all at once as an abstract blueprint. Rather, it gradually evolved through a series of political and administrative struggles that we examine in the chapters that follow: over executive branch reform in the late 1930s, over the control of

TABLE 2. The American political technology of emergency government

	Characteristic features	Key development(s)
Administrative machinery of emergency government	*Executive control* exercised by small planning and management offices working under the president that provide a center for preparedness, coordination, and command	Reorganization Act; Office for Emergency Management (1939–1941)
	Delegatory statutes that temporarily transfer legislative authorities to the executive for the duration of an emergency	Lend-Lease, Stockpiling Act; War Powers Act (1939–1942)
	Distributed structure of emergency government among various executive branch agencies and among state and local governments	Delegations to emergency offices and executive departments (1942–1943; 1950s)
Techniques of administrative readiness	*Emergency government planning* for emergency organization, essential functions, and action steps	NSRB and ODM work on preparedness (1949–1955)
	Planning for uncertain future catastrophes using scenario-based exercises and catastrophe models to formulate and test preparedness plans	ODM work on D-Minus Process (1955–1957)

mobilization planning during World War II, over planning for urban and industrial dispersal in the late 1940s, and over nuclear preparedness planning in the 1950s. By the mid-1950s, a political technology of emergency government had consolidated that is more or less recognizable today. On the one hand, this political technology involved an "administrative machinery" of emergency government, through which the executive was organized, and the power to rule was distributed among its parts. On the other hand, it involved techniques of administrative readiness to prepare the government to assume the form and the functions that would be required to manage an emergency (see table 2).

The structure of emergency government. One distinctive feature of the American political technology of emergency government is an "administrative machinery" designed to establish strong executive authority to manage emergency situations without undermining civilian rule. The recommendations of Progressive reformers working on a 1937 Committee on Administrative Management (described in chapter 2) laid the groundwork for this structure of emergency government. In combination with a number of "delegatory statutes" that transferred certain legislative powers to the

president, a 1939 Reorganization Act allowed Roosevelt to wield discretionary authority during emergency situations.[71] Roosevelt drew on this authority to address the ongoing Depression and to manage the large-scale mobilization needed to prepare for an anticipated war.[72] Following the German invasion of France, Roosevelt created an Office for Emergency Management within the Executive Office of the President. The first director of the Office for Emergency Management, William McReynolds, described it as a "device through which [the president] can exercise immediate supervision and control over emergency situations."[73] During World War II, the Office for Emergency Management served, following Rossiter, as an "administrative sky-hook" on which Roosevelt could suspend a succession of emergency agencies—such as the Supply Priorities and Allocations Board and the War Production Board—in which technical experts managed the war production effort. The Office for Emergency Management was the prototype for subsequent executive branch emergency planning and management offices, from the 1950s-era Office of Defense Mobilization to today's Federal Emergency Management Agency.

Another feature of American emergency government, as initially assembled under the Office of Emergency Management during World War II, was its "distributed" character. It established a central locus for coordination and control while preserving the diffused sovereignty of the US constitutional system. Within the federal government, American emergency planning and management since the 1950s has been distributed across federal agencies. Since these agencies are empowered by legislation, they are subject to congressional oversight, thus preserving, at least in principle, the balance of power among the branches of government. Emergency planning and management has also been distributed between the federal government and states, based on a coordinative structure that maintains state sovereignty while enabling states to request assistance from federal authorities when overwhelmed.

Techniques of administrative readiness. A second distinguishing feature of the American political technology for governing emergencies is a practice that Cold War preparedness planners called "administrative readiness." In their work on administrative readiness, planners sought to address what Schmitt identified as a particular limitation of liberal constitutional regimes in dealing with emergency situations: their reliance on legislation that "codifies a series of expectations drawn from the experiences of legislators" based on the past, rather than a future-oriented anticipatory planning for

unexpected contingencies.[74] By using techniques of anticipatory knowledge, the practice of administrative readiness created new kinds of "expectations" and "experiences" about uncertain future events so that officials could prepare for emergencies within the framework of constitutional government.

These techniques of administrative readiness were developed in the period immediately after World War II, when mobilization planning offices shifted from operational tasks of wartime resource management to preparedness for a future emergency. One set of techniques involved advanced planning for the temporary government organization that would come into being in a future emergency. Among these were "blueprint" planning for emergency offices and standby legislation; lists of essential functions that emergency government offices would assume; and plans that detailed action steps to be taken in a future emergency. When mobilization planners began to work on these techniques of administrative readiness in the late 1940s, they assumed that a future war would look more or less like World War II, in which the government would manage a long period of military-industrial production. But by the mid-1950s, planners became convinced that, with the advent of ever-more powerful weapons and delivery systems, a future emergency would demand "entirely new and grotesquely different functions" that had "no human experience behind them," as mobilization planner Edwin George put it in 1956.[75] In response, they devised new techniques, such as scenario-based exercises and computer-based procedures for simulating nuclear attacks, to anticipate the governmental functions that would be required in a future emergency and to identify gaps in preparedness in the present.

The Politics of Contemporary Security

Today we are regularly confronted with evidence of our vulnerability to catastrophic events, and, certainly, with the toll exacted by natural disasters, technological accidents, disease outbreaks, and other events that disrupt vital systems or that challenge our collective capacity to organize emergency response. Expert bodies, government commissions, and media reports tirelessly document what sociologist Craig Calhoun has described as a "world of emergencies."[76] Meanwhile, emergency declarations are routine features of governmental practice, both in the United States and globally.[77] Beyond the specific political debates such events engender—What went wrong? Who is to blame? Are we prepared for the next emergency?—a number of social theorists and political commentators have argued that the apparent ubiquity

of catastrophes and of governmental states of emergency is diagnostic of the political condition of the present, raising fundamental questions about security, rationality, and democracy. Our analysis in this book does not directly engage in such theoretical debates. But by investigating the forgotten contexts in which taken-for-granted ways of thinking and governing initially took shape, it may cast these debates in a new light.

Catastrophe and the limits of calculative rationality. One strain of critical analysis has examined how the specter of impending catastrophe challenges expert understandings of risk and the forms of social and economic security that became authoritative in industrial modernity. For instance, in his work on reflexive modernization, Ulrich Beck distinguishes between two phases of modernity. He argues that "first modernity," which arose in the late nineteenth to mid-twentieth century, was characterized by the establishment of institutions for managing risks such as unemployment, endemic disease, and accidental death. These risks were relatively predictable and bounded, Beck argues, and so security mechanisms such as social insurance or infrastructure provision could be used to distribute their effects over larger collectives.[78] "Second modernity," by contrast, is characterized by the proliferation of unpredictable and uncontrollable hazards that threaten to destroy "the very foundations of life."[79] Beck analyzes a range of such threats, from ecological catastrophe, global financial crisis, and the spread of chemical toxins to mass-casualty terrorism, nuclear war, and climate change. A key feature of these new hazards—and a defining element of the "reflexive" quality of second modernity—is that they have been generated by the very processes that modernization projects sought to foster: industrialization, urbanization, and technological innovation.[80] Because these reflexive risks are unpredictable and have potentially unbounded effects, according to Beck, they "escape the institutions for monitoring and protection" that have been embedded in governmental institutions over the past century.[81] There "is no expert" in managing such risks, Beck writes; even when technical specialists can estimate the probability or consequences of a given hazard, these assessments often cannot provide authoritative guides for political action to mitigate risk.[82]

For Beck, the ubiquity of catastrophic risk is a key to understanding the political condition of the present. Reflexive modernization, he argues, presents "totally new types of challenges to democracy," as established accommodations between security, expertise, and governmental action are thrown into disarray.[83] Here, Beck's argument converges with a broader literature that has examined what François Ewald refers to as the "deeply disturbed

relationship" that exists today between democratic publics and "a science that is consulted less for the knowledge it offers than for the doubt it insinuates."[84] For some observers, this circumstance demands a new politics oriented to the precautionary avoidance of catastrophic risk, or the replacement of discredited technocratic institutions by reinvigorated democracy.[85] As Sheila Jasanoff has put it, "The problem we urgently face, is how to live democratically and at peace with the knowledge that our societies are inevitably 'at risk'. Critically important questions of risk management cannot be addressed by technical experts with conventional tools of prediction."[86] A more ominous prospect is what Beck refers to as a "totalitarianism of hazard prevention," in which democratic processes are suspended in the name of the "right to prevent the worst," and the "exceptional condition" produced by uncontrolled catastrophes "threatens to become the norm."[87]

State of emergency—the exception as norm. This prospect—that in contemporary democracies the "exceptional condition threatens to become the norm"—is approached from a very different perspective by a number of critical thinkers who have analyzed the relationship between emergency powers and liberal constitutional government.[88] Much of this work was written in response to the expanding emergency powers marshaled by the US government following the attacks of September 11, 2001, and focuses on surveillance policies, the treatment of terrorism suspects, and other aspects of the "war on terror." This work links the proliferation of emergency measures in the aftermath of 9/11 to a broader tendency in modern democracies to govern through emergency powers. For example, philosopher Giorgio Agamben argues that persistent and widespread recourse to emergency measures suggests that mechanisms of dictatorial rule, unbounded by juridical or legislative restraints, are transforming constitutional order "to varying degrees in all the Western democracies."[89] According to Agamben, "states of exception" to normal constitutional order exemplify the general condition of modern democracies.

In *Critique of Security*, political theorist Mark Neocleous passes through similar historical territory, examining how, in Europe and the United States in the nineteenth and twentieth centuries, liberal constitutional governments refashioned the institutions of the state of siege and martial law—originally invoked when states faced direct threats to sovereign power—as more general political instruments. Initially, these governments deployed such tools to wage class war against organized labor through disciplinary measures to break strikes and ensure economic flows. Today, Neocleous

argues, liberal governments invoke emergency powers to address other phenomena, from the catastrophic to the apparently trivial: famines, drug abuse epidemics, football hooliganism, and natural disasters or "even just a bit of unusual weather."[90] For Neocleous, the elision of the distinction among different kinds of emergency undermines the very idea of normalcy. The result, he claims, is an insidious securitization and militarization of civil government, as the "state of emergency" has become the most "common prescription in the pharmacopoeia of statecraft" in liberal democracies.[91] A broader literature on "securitization" has analyzed similar dynamics, investigating how government authorities invoke the specter of existential threats to justify exceptional measures that undermine democratic norms. As Rita Taureck has described this dynamic, "by stating that a particular referent object is threatened in its existence," a strategic actor asserts a right to take "extraordinary measures" to ensure its survival. Securitization thus moves an issue "out of the sphere of normal politics" and into the realm of "emergency politics," where it can be dealt with "swiftly and without the normal (democratic) rules and regulations of policy-making."[92]

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We share with such critical analyses an interest in (and concern with) the challenges that catastrophic threats pose to modern government: on the one hand, to experts' ability to assess and manage such threats; on the other hand, to mechanisms of democratic rule and distributed sovereignty. But our genealogical approach provides a different perspective on these questions. We begin from the observation that these critiques can be situated within broader problematizations of risk, security, and democracy.[93] Over the last century, the issues that are now raised as problems for political or social theory have been addressed by an array of reformers, experts, and government officials as urgent practical matters. Thus, since the 1930s, technical experts and government officials have been increasingly concerned with problems of "reflexive modernization": the appearance of threats to the very "foundations of life" that are systematically generated by modernization processes, and the difficulty of assessing these novel threats using established forms of assessment and mitigation.[94] Meanwhile, a range of administrative reformers, government officials, and legal experts worried about how the increasing "normalcy" of emergency government in the United States in the middle of the twentieth century might undermine democratic norms. In this light, our strategy is not to offer another theoretical analysis

of catastrophic risk or the "state of emergency." Rather, we examine how historically situated actors initially formulated these questions, and how their responses have shaped contemporary emergency government.

This analytical strategy points to a more differentiated understanding of our current "world of emergencies" than the sweeping diagnoses presented in much recent social and political theory. Increasingly prevalent catastrophic risks may indeed challenge existing forms of expertise and existing security mechanisms. But this does not mean that they exceed all means of technical assessment and mitigation. In the episodes we examine, technical specialists and government officials assembled new forms of expert knowledge about vulnerability, and they invented mechanisms to ensure the continuous operation of life-sustaining vital systems in the event of future disasters. Regardless of whether these mechanisms have achieved the aims for which they were designed and deployed, they have become increasingly authoritative and pervasive across many domains of contemporary life. Moreover, the provision of vital systems security by means of such mechanisms has come to be widely accepted as a central obligation of government.[95] Our analysis also complicates the claim that increasingly pervasive states of emergency break down the distinction between emergency government and normal government, or that emergency decrees necessarily contain the seeds of authoritarianism. Indeed, American reformers during the Great Depression, World War II, and the early Cold War sought to invent devices and techniques of emergency government that would obviate the need for exceptional measures.

We do not mean to argue that there is no need for concern about "exceptionalism" or "securitization" in American politics. Constitutional norms are threatened by security measures in many domains; the "war on terror" and recent immigration policies provide obvious examples. Rather, the point is that it is not possible to deduce a general logic of emergency government from such examples.[96] There are forms of emergency government that are compatible with liberal constitutional government, and these forms predominate in many core domains of contemporary emergency management. There are ways of anticipating and mitigating uncertain and unprecedented catastrophes that are grounded in authoritative knowledge, even if that knowledge is itself uncertain and is the subject of controversy and contestation. And there are, finally, different ways that a threat can be "securitized." It makes a significant difference whether a particular threat is addressed by reducing the vulnerability of vital systems to disruption or by imposing disciplinary controls and extrajudicial measures that undermine

civil liberties.[97] The point of analyzing these alternatives is to sharpen our discernment, to bolster our ability to assess whether particular emergency measures truly threaten our norms of government, and, perhaps, to better equip ourselves to craft a politics of emergency that better accords with our collective aspirations for the future.

The Objects of Genealogical Analysis

The last section of this introduction describes the methods of inquiry we used to construct this genealogy. In piecing together this account, we have mainly drawn on primary documents, including bureaucratic reports, memoranda, technical studies, and plans.[98] Some of the texts we examine, such as the forty-seven-volume *United States Strategic Bombing Survey*, are relatively well known among scholars of US political and military history. Most, however, are obscure documents—in some cases, recently declassified—that were intended for narrow audiences of officials, experts, and, in some cases, policymakers. They are significant for us not because they were necessarily influential. Rather, they provide us with insight into the formation of a schema or diagram of emergency government, through which a particular range of situations was constituted as a problem that called out for certain kinds of analysis and remedial intervention. In working with these primary documents, we have examined first, the *styles of reasoning* through which specific domains of expert practice are defined; second, the *knowledge infrastructures* that make it possible to constitute targets of governmental intervention; and third, *sites of technical practice*, in which experts and officials confront and formulate solutions to immediate practical problems.

In describing the emergence of novel styles of reasoning, we do not mean to suggest that a domain of practice that had previously been irrational became more rational.[99] Nor do we mean to treat the history of expert thought as the progression of ever-more accurate approximations of an objective reality. Rather, our goal is to examine the conceptual and pragmatic structure of particular forms of knowledge, and the coming-into-being of things—such as "vital systems" or "national resources"—that, as Ian Hacking puts it, "do not exist in any recognizable form" until they have become objects of expert analysis.[100] More concretely, an analysis of styles of reasoning focuses on experts and officials whose authority is grounded in technical knowledge and formalized (and often, but not always, quantified) demonstration.[101] Although this approach shares something with traditional intellectual

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INDEX