

On the Verge of Death: Visions of Biological Vulnerability*

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Annu. Rev. Anthropol. 2014. 43:105–21

First published online as a Review in Advance on
July 18, 2014

The *Annual Review of Anthropology* is online at
anthro.annualreviews.org

This article's doi:
[10.1146/annurev-anthro-102313-030341](http://dx.doi.org/10.1146/annurev-anthro-102313-030341)

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*This article is part of a special theme on
Knowledge as well as a special theme on Risk. For
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www.annualreviews.org/doi/full/10.1146/
annurev-an-43](http://www.annualreviews.org/doi/full/10.1146/annurev-an-43)

Keywords

risk, danger, state, security, surveillance, disease

Abstract

This article considers how anthropologists and other social scientists examine biosecurity as an object in the making. It suggests that scholars encountered this object in research projects concerned with questions of global health, capitalism, neoliberalism, humanitarianism, citizenship, science, medicine, technology, ecology, surveillance, and risk. This growing body of work explores emerging modes of government that are characteristic for the post–Cold War period of global capitalism. Ethnographic accounts demonstrate how actors and institutions located in the Global North and the Global South perceive the spread of dangerous biological things as a threat to the health of individuals and populations. This article aims to review this literature and supplement the current approach with a theory of security performativity.

INTRODUCTION

Over the past two decades, biosecurity has become an important site of political intervention, legal regulation, social mobilization, technological innovation, scientific analysis, and economic opportunity in the United States and elsewhere. Concerns with conditions of biological vulnerability have varied widely, ranging from panics about bioterror attacks (Guillemin 2001, King 2003, Lakoff 2007, Samimian-Darash 2009, Schoch-Spana 2004, Vogel 2006) and influenza pandemics (Caduff 2010, Kleinman et al. 2008, Lowe 2010, MacPhail 2010, Mason 2010, Porter 2013) to fears about livestock infections (Donaldson 2008, Enticott 2008, Hinchliffe 2010, Hinchliffe & Bingham 2008), invasive species (Buller 2008, Clark 2002, Comaroff & Comaroff 2001, Helmreich 2005, Moore 2012, Subramaniam 2001), and counterfeit drugs (Peterson 2014; J. Hornberger, unpublished paper, “On Fake Goods and Fake Cops. In the Business of Securing the Copy.”). In technical reports and public statements, biosecurity experts have described the growing mobility of biological things as a serious threat to society, the economy, and the environment. Newspaper stories, television reports, talk shows, computer games, thrillers, novels, tweets, blogs, and websites have contributed to the circulation and sedimentation of these alarming visions of vulnerability. Inspired, but not necessarily controlled, by experts, perceptions of biological threat are organizing reality as “fear and thrill” for mass audiences (Aretxaga 2002), promoting a political imaginary of infinite reach that increasingly saturates public culture with uncertainty and anxiety.

This article explores how anthropologists and other social scientists have contributed to the critical investigation of contemporary materializations and mobilizations of biosecurity. Instead of providing a definition, anthropologists unpack the notion and analyze specific settings in which biosecurity discourses and practices have been articulated, negotiated, and contested. This body of work focuses on biosecurity as an emerging modality of governmentality, highlighting the role of affect (Lakoff 2008b, Major 2008, Masco 2014), uncertainty (Collier 2008, MacPhail 2010, Samimian-Darash 2013), indeterminacy (Barker 2008, Braun 2007, Cooper 2006, de Abreu 2013, Dillon 2003), technology (Breckenridge 2005, Fearnley 2008a, Parry 2012), bureaucracy (Barker 2012; Lentzos & Rose 2009; J. Hornberger, unpublished paper, “On Fake Goods and Fake Cops. In the Business of Securing the Copy”), and the mass media (Briggs 2011, Caduff 2014, Keränen 2011, Nerlich & Koteyko 2012). Genealogical considerations suggest that biosecurity must be seen as the most recent manifestation of an enduring cluster of modern concerns about epidemic disease, border protection, and global trade and travel (Bashford 2006, Gros 2012, King 2003, Wald 2008). These concerns intensified during the post-Cold War period, allowing biosecurity to acquire new subjects and objects as a rising number of actors and institutions appropriated the notion for themselves (Masco 2014).

Biosecurity has become a popular term with a growing currency in academic discourse: Institutes have been established, journals and magazines have been published, seminars and workshops have been organized, funding streams have been created, and research programs have been launched (Dobson et al. 2013, Rappert & Gould 2009). Geographers Nick Bingham and Steve Hinchliffe emphasize that the scope of biosecurity practices—that is, the scope of the social, political, and technological efforts to control the circulation of dangerous biological things—is expanding today, ranging from seemingly mundane habits of hygiene, such as hand-washing and disinfection, to complex systems of surveillance and cutting-edge biomedical research (Bingham et al. 2008; Bingham & Hinchliffe 2008; Hinchliffe 2013a,b; Hinchliffe et al. 2012; Hinchliffe & Lavau 2013). Typically, biosecurity interventions highlight the uncertainty of the future, the unpredictability of events, and the difficulty of controlling life itself. But biosecurity refers not only to a contemporary cluster of discourses and practices concerned with the perilous present and the uncertain future; it has also become a brand, and some observers have suggested that

the brand “has brought public health political attention and financial resources it would never have received otherwise” (Fidler 2006, p. 204). Other scholars have cautioned that concerns about biological weapons and catastrophic outbreaks of infectious disease have generated an avalanche of national and international programs that are narrowing the scope of the public health mission (Fee & Brown 2001). As Masco (2014) underscores, these programs have also facilitated the militarization of public health and the construction of new infrastructures of state power.

At the heart of today’s biosecurity concerns are global threats that are assumed to exceed the territorial boundaries of the modern state. Despite the constant invocation of the “global” as a compelling sign of the “common,” biosecurity has often expressed the narrowly conceived interests of a small number of nations concerned predominantly with the problem of border protection under conditions of rapid globalization. Indeed, biological nationalism is what such policy prescribes when it requires citizens in settler societies to eradicate “alien” plants, which are presumably infiltrating the country, and to cultivate “native” species in the nation’s garden (Clark 2013, Subramaniam 2001). What the growing appeal of biosecurity clearly indicates is that modernity’s “risk society” (Beck 1992) is increasingly mutating into a society of security, that is, into a society of control and containment, detention and deportation. Anthropological research suggests that the articulation of this society and the systematic identification of deportable bodies are implicated in broader problematizations of citizenship, community, and national sovereignty, which are characteristic of the post–Cold War period of global capitalism (Barker 2010, Comaroff & Comaroff 2001, Povinelli 2011).

Social studies of security are, by and large, constructivist, highlighting the ways in which threats are conceived in particular contexts. The critical aim of such studies is to denaturalize hegemonic understandings of the kinds of dangerous objects and events that populations are facing today: why this particular threat rather than another? What kind of life and whose security are we talking about? This approach has been successful insofar as it has revealed both the political dimension of the scenarios that experts, journalists, and politicians emphasize as well as their exclusions and erasures. The aim of this review is to discuss the literature—which draws predominantly on discourse analysis, science and technology studies, biopower and biopolitics, political economy, multispecies ethnography, and governmentality more generally—and supplement the constructivist approach with a theory of security performativity. The latter allows us to understand better the extent to which security can operate outside of the framework of truth and falsity, a feature that has made it almost impermeable to critical inquiry.

SECOND-ORDER OBSERVATIONS

Two edited volumes, Lakoff & Collier’s *Biosecurity Interventions* (2008) and Chen & Sharp’s *Bioinsecurity and Vulnerability* (2014), offer important insights into the ways in which biothreats are conceived today in specific contexts. Both volumes demonstrate how the anthropological interest in biosecurity has emerged from recent research focusing on questions of global health, capitalism, neoliberalism, humanitarianism, citizenship, science, medicine, technology, ecology, surveillance, and risk. Noticeably, and similar to the expanding anthropological scholarship on security more generally (Albro et al. 2012; De Genova 2002; Goldstein 2010, 2012; Gusterson 1996; Gusterson & Besteman 2009; Holbraad & Pedersen 2013; Masco 2006), both volumes struggle with the difficulty of taking biosecurity seriously as an object of analysis while simultaneously resisting the political demand to authorize strategies of intervention promoted in the name of prevention, precaution, and preparedness. A critical analysis of biosecurity is crucial in a world where surveillance, containment, and control efforts are continuing to expand; these two volumes suggest two different ways of developing such an analysis.

Lakoff & Collier's collection focuses on biosecurity as a field of expertise and mode of regulation with a distinctive set of knowledge practices and strategies of intervention, through which a broad spectrum of threats to biological organisms, agricultural systems, and the health of human populations are identified and managed (Lakoff & Collier 2008; see also Collier et al. 2004). Exploring how experts determine such threats, the volume offers observations of observations, or "second-order observations," in Niklas Luhmann's terminology (Luhmann 1998). This perspective highlights ecologies of expertise that are taking shape in national and international programs that link health, disease, and security in new ways. Lakoff & Collier's analysis of biosecurity extends Foucault's influential work on biopower, biopolitics, and the government of bodies and populations (Foucault 1990, 2006, 2008). Rather than taking visions of vulnerability for granted, the authors suggest examining how experts are problematizing particular events such as bioterror attacks or influenza pandemics and how they are creating new forms of evidence that are transforming fundamental notions of the normal and the pathological.

This work has demonstrated how biosecurity measures are mobilized to protect humans, animals, and plants from potential harm, revealing the "styles of reasoning" (Hacking 2002) that structure these measures and that have made them acceptable today. Refusing the normalization and naturalization of biological threats, this type of second-order observation provides a critical account that highlights the historical contingency of biosecurity's constructions of risk and danger. Contributors to Lakoff & Collier's volume examine the emergence of new approaches in "epidemic intelligence" such as "syndromic surveillance," a system that relies on nonspecific data sources such as retail sales, emergency calls, and discharge diagnostics to identify unpredictable but potentially catastrophic outbreaks of disease (Fearnley 2008a); they emphasize the crucial role of scenario-based exercises to fabricate fear in the absence of events (Lakoff 2008a, Rose 2008); they show how precautionary interventions into conditions of existence have gained traction in urban settings (Bingham & Hinchliffe 2008, Keck 2008); and they analyze how infectious disease research is increasingly perceived as a security issue because it may contribute to the proliferation of potentially dangerous pathogens (Caduff 2008, Vogel 2008). This work also suggests that biosecurity's modality of emergency intervention cannot resolve chronic problems, which require stable funding, a strong commitment, and a long-term perspective (Koch 2008, Redfield 2008).

Critique in this type of second-order observation thus means revealing the contingency of biosecurity's constructions as well as identifying the tensions and contradictions that account for both the instability and vitality of this field of expertise and the constitution of biological threats as targets of intervention. However, the focus on experts and their styles of reasoning risks promoting a form of analysis that may inadvertently replicate biosecurity's ideology of efficiency and rationality. Second-order observation can reveal tensions and contradictions, but it can also reproduce the totalizing views that biosecurity experts present on television and elsewhere when they speak about the spread of a disease and the most effective way of containing it. Analytic frameworks through which biosecurity discourses and practices are examined have thus not always been able to resist the temptation of systematization and rationalization. To avoid this tendency is important today, both analytically and politically, because it reflects biosecurity's aspiration as an emerging field of expertise eager to consolidate its authority and affirm its legitimacy. Biosecurity comes with particular notions of biological vulnerability, and it is important to study how such notions are constructed; however, scholars cannot assume that these notions are consistent or adequate. As Lakoff & Collier underscore, biosecurity is not necessarily the most effective, nor is it the only available response to, the problem of biological vulnerability.

It is not just rationalities of risk and danger but also fantasies of mass death and mass survival that are at the heart of biosecurity. These are fantasies of the state; they have been essential for the formation of national communities and the kinds of sacrifices that modern states demand in

the name of the nation (Anderson 1983, Frow 2003, Masco 2006). Thus, it is axiomatic to extend the analysis of biosecurity beyond its ideology of efficiency and rationality, to examine the role of mass-mediated fantasy in the making of the national community, and to remain attentive to the vulnerabilities that are sanctioned in the name of security.

This, in sum, is what Chen & Sharp suggest in their edited volume (2014), which offers another series of second-order observations on contemporary constructions of risk and danger.¹ Revealing the silences that dominant understandings of biosecurity produce, Chen & Sharp draw attention to the smaller scenarios and less dramatic scenes of human insecurity that continue to proliferate in the shadow of the more spectacular accounts of biological nightmares associated with infectious disease, terrorism, and natural disaster. This move from crisis to chronicity (Vigh 2008) is another version of Foucault's "history of the present" (Foucault 1995, 2003); it mobilizes the tools of scholarship to illuminate everyday experiences of vulnerability and social suffering (Das et al. 2001) that are frequently disqualified and dismissed as irrelevant or insignificant. Here, in the very ability of authorities to separate the "important" from the "unimportant," the "event" from the "quasi-event" (Povinelli 2011), we encounter the politics of biopolitics in Fassin's sense (Fassin 2007). At the core of this politics is a modality of intervention that divides circulation into desirable and undesirable forms of exchange and that determines which lives are worthy, or not, of security protection. In fact, the care of life frequently entails the killing of life; in the case of pandemic influenza, we see the culling of millions of chickens—a measure that presumably prevents the transmission of avian viruses to human populations. Animal lives, as Braun (2013) notes, are currently sacrificed by the millions in the name of biosecurity so that human existence can continue. Experts often prefer to deny the violence of their actions, depoliticizing decisions that are eminently political. Biosecurity's inclination, not surprisingly, is to operate as an "antipolitics machine" (Ferguson 1990), replacing debate and dissent with calculations of risk and danger. It is therefore crucial to analyze constructions of biological threat without contributing to the naturalization and normalization of these constructions. Chen & Sharp's effort to write against biosecurity and challenge the "rule of experts" (Mitchell 2002) reminds us that "another politics of life is possible" (Fassin 2009), one that formulates alternative strategies to address the vulnerabilities characteristic of contemporary "economies of abandonment" (Povinelli 2011). The critical intention of this mode of analysis is to highlight a world of insecurity and social suffering that hegemonic understandings of biosecurity obscure. And yet, such a form of immanent critique, which draws attention to invisible forms of vulnerability, may inadvertently participate in the production of the very demand that it seeks to obviate. Today's insecurity is biosecurity's frontier; it may be the next new thing.

To examine the stunning success of biosecurity's global proliferation, it seems necessary for anthropological scholarship to shift the perspective from questions of intelligibility—"How has a reality become intelligible in a particular way?"—to questions of infelicity—"Why is a reality not quite what it should be?" Rather than illuminating what has made biosecurity intelligible today, I suggest highlighting the infelicitous nature of its constitution. The inspiration for such a theory of security performativity comes from Austin's (2001) account of the performative speech act, the speech act that brings about what it names. Significant for the study of security, however, is not Austin's concept of the felicitous but his concept of the infelicitous speech act, the speech act that fails to enact what it names. Infelicity is important as an analytic term because it allows scholars to foreground security's failure to fulfill its promise. However, security's vulnerability, its inability

¹I am grateful to Nancy Chen and Lesley Sharp for sharing their introduction with me. I have not been able to read individual chapters collected in the volume and thus cannot discuss them in this review.

to bring about what it names, is not a shortcoming or disadvantage; on the contrary, it is essential for its reproduction. Infelicity is a form of failure, to be sure, but this failure is not without effect. According to Austin (2001), infelicity does not mean that nothing has been done; in fact, “lots of things will have been done” (p. 17; see as well Felman 2002, p. 57).

Security is distinctive because it is a structural condition, not of intelligibility but of infelicity. Interventions promoted in the name of security can of course prevent catastrophic events from happening. However, from the vantage point of security, a situation of stability is nothing but a passing moment. Officials completed the slaughtering of the entire chicken population and the virus vanished, but the dangerous germ might return next week or next month. Security, consequently, is infelicitous because it is not attainable as a permanent condition. Biological existence is always in danger, even when there is no imminent threat, and the greatest peril is a false sense of security, the confidence and complacency that can arise in the absence of events.

In the system of alert that many states endorsed over the past few years, the probability of a terrorist attack or influenza pandemic is communicated using a scale of primary colors: The risk of an event is “green,” “yellow,” or “red,” corresponding to levels of risk that are low, elevated, or severe, but it is never nil. The purpose of such communication is not to make the public free of fear but to install a permanent sense of insecurity and create a constant state of readiness. In the government-sponsored scheme of green, red, and yellow risk, the freedom from doubt, anxiety, and apprehension has evaporated. And just as biological existence is assumed to be in constant danger, security itself remains liable to the possibility of failure. False alarms are inevitable, mishaps are always possible, and total protection is humanity’s greatest fantasy. This, then, is the structure of security’s insecurity, a condition of instability that has turned securitization into a permanent project for a life that has yet to die.

In security, life is seen as a form of existence on the verge of death. Security, accordingly, refers to a state of being that has already been lost and can never be regained and restored. The normalization and naturalization of this sense of loss are crucial for security as a formation of knowledge and power, allowing actors and institutions to affirm the significance of securitization. To find oneself in search of security is to endure the life of a subject almost dead, a form of life conceived in the shadow of survival. The peculiar shape of this survival points to a scene of endless deferral in which security is exchanged as the signature of its lack, the name of its loss. To enter the world of security is to enter a world of insecurity, a world of endless suspicion, speculation, deception, anxiety, uncertainty, obscurity, and paranoia. In the world of “intelligence,” nothing is quite as intelligible as it should be, including information, which is sensitive, secret, and suspect. To examine how actors and institutions can find comfort in constantly being afraid, we must shift our focus from questions of intelligibility to questions of infelicity and investigate the receding horizon of security’s promise. Such an account of security’s insecurity allows scholars not only to highlight the forms of uncertainty proliferating in the shadow of today’s hegemonic concerns, but also to analyze the construction of threats without inadvertently contributing to the reproduction of a rationalist understanding of securitization. In doing so, scholars can examine the performativity of security without running the risk of perpetuating its effects.

This is the paradox that requires reflection: Security’s infelicity, its inability to bring about what it names, is security’s condition of possibility. How, then, can we situate socially, historically, and geographically—that is, ethnographically—the force that this paradox has obtained?

DREAMWORLD AND CATASTROPHE

In 1963, a prominent British physician boldly declared, “[W]e can look forward with confidence to a considerable degree of freedom from infectious diseases at a time not too far in the future”

(Cockburn 1963, p. 1058). The remarkable success of the public health movement, the progress of biomedical science, and the development of new drugs such as penicillin and streptomycin made the spectacular project of eradicating infectious disease more plausible than ever before (Bud 2007, Duffy 1992, Leys Stepan 2011, Porter 1994, Rosen 1993, Tomes 1998, Worboys 2000). Faith in the power of “magic bullets,” that is, faith in science, medicine, technology, philanthropy, the pharmaceutical industry, and the modern state, was widely shared among elites, even though precarious social conditions and the enduring limitations of health care systems periodically resulted in the resurgence of infectious diseases, especially among the marginal and the poor (Colgrove 2006).² Optimistic observers suggested that the “therapeutic revolution” had initiated a phase of receding epidemics with rapidly declining morbidity and mortality rates. Other experts argued that the “mortality transition” of “advanced nations” was an unintended result of social and economic changes, which led to better nutrition and higher living standards (McKeown 1976). According to these observers, it was time to close the gospel of germs and concentrate on chronic disorders such as heart disease, mental illness, and cancer.

Global eradication programs for afflictions such as malaria were abandoned once these diseases had been eliminated in Europe and the United States. Confidence about modern medicine’s ability to prevent pandemics had grown so high that researchers, reporters, and policy makers increasingly considered communicable disease a problem of the past. Optimistic assertions about the therapeutic revolution and the mortality transition became less convincing, however, with the unexpected eruption of HIV/AIDS in 1981. The worldwide distribution of the pathogen and the inability of national and international health authorities to prevent the pandemic spurred political activism and an unprecedented program of infectious disease research (Epstein 1996). Equally disturbing for many observers at the time was the rising prescription of antibiotics for a broad spectrum of disorders and the systematic adoption of these drugs for growth promotion in agricultural meat production. This overuse resulted in the emergence of resistant bacteria, dangerous strains of contagious agents that made control efforts more complex than ever for numerous infections (Bud 2007, Koch 2008, Nguyen 2004, Orzech & Nichter 2008).

Historian Nicholas King offers detailed accounts of these visions of biological catastrophe, epitomized by the devastating HIV/AIDS pandemic and the unexpected emergence of drug-resistant bacteria (King 2002, 2003, 2004).³ These dramatic visions of biological vulnerability emphasized the failure of public health programs to control infectious disease, but they also articulated the post-Cold War anxieties of a “world without borders,” anxieties that resulted in mass media’s obsession with exotic African fevers such as Ebola, Marburg, and Lassa. “We have never been more vulnerable,” declared Nobel Prize-winning microbiologist Joshua Lederberg in a gloomy editorial published in 1996 (Lederberg 1996). For these experts, the periodic scares that sudden outbreaks of disease triggered in newspapers, journals, and magazines were important reminders of a more general shift in the delicate balance between humans, animals, and microbes (Krause 1998; Lederberg et al. 1992; Morse 1993, 1995; Satcher 1995). The new economy of global trade and travel had created ideal conditions for the secret traffic of contagious agents across expanding networks of exchange. In a world of accelerating globalization and neoliberal deregulation, conventional forms of containment such as quarantine proved unable to prevent the spread of deadly bugs. “[W]e can be confident that new diseases will emerge,” a report from

²As historians have shown, colonial governments’ efforts to prevent epidemics were often racist, sexist, and ineffective (see Anderson 2006, Arnold 1993, Packard 1989).

³“Dreamworld and catastrophe” is the organizing frame of this section, inspired by the work of Buck-Morss (2002) and Cohen (2012).

the Institute of Medicine (Lederberg et al. 1992, p. 1) underscored, conjuring up the specter of a catastrophic outbreak of communicable disease. According to the report, elimination of the microbial threat was impossible, “no matter how well stocked our armamentaria of drugs and vaccines, no matter how well planned our efforts to present and control epidemics, and no matter how advanced our basic science and clinical understanding of infectious disease” (Lederberg et al. 1992, p. 3).

In his work, King underscores that these daunting visions of biological vulnerability achieved worldwide popularity with the best-selling books written by Laurie Garrett and Richard Preston (King 2002, 2004). While she was a fellow at the Harvard School of Public Health, Garrett, a former National Public Radio and Newsday correspondent, conducted extensive research for a book project on the recent rise of a set of old and new infections. Upon learning that her colleague, journalist and novelist Richard Preston, was working on a similar manuscript, Garrett intensified work on her rapidly growing publication in order to release it concurrently. In 1994, Garrett’s *The Coming Plague* and Preston’s *The Hot Zone* were published almost simultaneously to great public acclaim (Garrett 1994, Preston 1994). These nonfiction best sellers established the apocalyptic scenario of a planet threatened by an obscure mix of dangerous pathogens lurking in the rain forests of faraway countries. Over the years that followed, this scenario became the theme of an endless series of “gripping books,” which promised “chilling stories,” “terrifying revelations,” and a “fascinating look” into the obscure past and frightening future of infectious disease. These publications included popular accounts of *The Devil’s Flu* (Davies 2000), *The Viral Storm* (Wolfe 2011), and *The Monster at Our Door* (Davis 2005). This was science, not fiction; a science that began where fiction left off (Mangold & Goldberg 2000). Veteran reporters were drawing on “top sources” to uncover the threat of undiscovered viruses. More solid titles, written in “clear and nonalarmist language,” offered a “realistic overview” and “comprehensive survey for the concerned citizen” (Croddy 2002). The discursive machinery of mythical production was in full swing at the turn of the century.

In the United States, experts and advisors with close ties to the federal government perceived the global nature of the microbial threat through the parochial lens of national security. Tackling exotic epidemics overseas became an important feature of the nation’s foreign policy because it was considered a contribution to the protection of the American people, the advancement of the American economy, and the promotion of America’s interests (IOM 1997). A series of dramatic reports, published by government agencies and American think tanks, brought the problem of infectious disease in a “world without borders” into sharp relief. In 2000, the US National Intelligence Council released an unclassified version of an intelligence estimate addressing the global infectious disease threat and its implications for US national security (NIC 2000). A 2003 RAND report emphasized that epidemics can destabilize the economy of a state and generate widespread fear and panic (Brower & Chalk 2003).

In 2007, the World Health Organization (WHO) adopted the language of security and proposed a framework of “global public health security” (Weir & Mykhalovskiy 2010). Framed in these terms, the concern with the circulation of dangerous biological things articulated a fundamental tension intrinsic to the post–Cold War order of global capitalism. Public health interventions affirmed the imperative to promote and facilitate the transnational mobility of labor, capital, people, and commodities while simultaneously insisting on the necessity of regulating and modulating these flows to prevent the distribution of dangerous diseases. The language of security obtained “contagious communicative power,” to borrow Jackie Orr’s apt phrasing (Orr 2006), not least because it allowed scientists, journalists, and health officials to refract existing concerns about the porosity of borders and boundaries through the lens of unruly bugs (Comaroff 2007, Comaroff & Comaroff 2001). The language was compelling; it emphasized an important tension distinctive for

the contemporary historical moment and the kinds of stranger socialities and stranger intimacies that had become ever-more frightening to the residents of rich countries.

At the core of these concerns were anxieties that have taken a historically distinctive shape in the hot zone of global trade and travel. These anxieties are not just about biological threats. They are anxieties about a borderless world and a shrinking planet, where viruses are said to know no borders. They are anxieties about industrialization, urbanization, deforestation, and an unprecedented destruction of the environment. They are anxieties about global climate change and the secret journey of tropical species into the temperate zones of the North and the South. They are anxieties about mysterious microbes breeding in remote jungle villages. They are anxieties about migrant and refugee populations and the revenge of terrible afflictions, such as smallpox or tuberculosis. They are anxieties about urban centers where people are living in close proximity to their backyard ducks and rooftop poultry. They are anxieties about invasive species and resistant bacteria that are proliferating in nature's laboratory, a laboratory that never sleeps. They are anxieties about fringe cults, rogue states, and terrorist cells, the building blocks of fanatic organizations. They are anxieties about austerity states, market reforms, and structural adjustment programs and the crumbling public health infrastructures left in their wake. Fatal strains of deadly disease are carried across national borders; the next pandemic seems no more than a plane ride away.

These are the nightmares of the almost dead, specters of a biological catastrophe that have contributed to the sedimentation of a geography of blame in which bugs are given a natural place in the dusty neighborhoods of developing nations. In this "biopolitics of otherness" (Fassin 2001), Asian and African ecologies figure as "natural reservoirs" of exotic viruses (Hinchliffe & Lavau 2013). The biopolitical desire to police populations, as Braun (2007) observed, has expanded "across the animal kingdom in order to govern the 'global biological' as a single, integrated system containing emergent risks" (p. 21). The interspecies contact point is now the hot zone that requires the intensive surveillance of sophisticated BioWatch programs. Modern trade and travel have rendered territorial borders permeable, and health authorities are increasingly worried that biological life is getting out of control in the global village of global capitalism. Accelerating processes of transnational mobility, including forced migration and displacement, have produced a new proximity between the advanced nations of the West and the primordial life of the Rest. The logic of containment suggests that the struggle against disease must be taken "over there," before it "reaches here" (Braun 2007, p. 22). Floating populations of migrants and refugees in southern China—"crowded into tenement housing, racialized as backward, largely without health care or public health services" (Mason 2012, p. 127)—are quarantined preventively when officials declare public health emergencies. Thus, today's fears about biological threats highlight the geopolitical insecurities of "unrecognizable aliens capable of disrupting existing immunities, penetrating once-secure boundaries at a time of deregulated exchange" (Comaroff 2007, p. 198).

In recent years, postcolonial nations have responded critically to biosecurity's ambition of global management. In 2007, the government of Indonesia decided to withdraw samples of the influenza virus from the WHO's sharing system. The specimens were derived from patients known to have been infected with the highly pathogenic H5N1 avian influenza virus. Indonesia's Minister of Health argued that the country supplied samples to the health organization for free, which were then made available to pharmaceutical companies in Europe and the United States to produce protective vaccines for a potential pandemic. These vaccines, however, were costly and thus unavailable to countries such as Indonesia. The Health Minister questioned the stunning inequity in this global economy, not of exchange but of extraction.

In a newspaper article published in the *Washington Post* in 2008, American diplomat Richard Holbrooke and journalist Laurie Garrett blamed Indonesia's government and called its refusal to share virus samples with the health organization "morally reprehensible" (Holbrooke & Garrett

2008). The two authors rejected the claim that dangerous viruses are the sovereign property of individual nations. Taking the moral high ground and speaking in the name of “global health,” they suggested that it is “absurd” to extend the notion of sovereignty to viruses that, like influenza, can be carried across international borders by migratory birds. The legal principle of sovereign property, invoked by Indonesia’s government, represented, in their view, an “extremely dangerous idea” for the global system of public health security. But Indonesia’s decision to withdraw its samples was supported by many governments in the Global South as well as by humanitarian activists and advocates for greater equity of access to vaccines and other life-saving drugs. The decision to interrupt a transnational mechanism of virus sharing caused a considerable crisis in a hegemonic vision of biological security and resulted, after six years of intensive negotiations at the WHO, in the presentation of a new framework for the global sharing of virus samples.

EPILOGUE: BAKING SODA

“He held the tube in his hand thoughtfully. ‘Yes, here is the pestilence imprisoned.’

– H. G. Wells, The Stolen Bacillus

Among the successful achievements of the modern public health movement is the eradication of smallpox in 1977, when the last case was reported in Somalia. The smallpox eradication program was headed by physician and epidemiologist D. A. Henderson, who subsequently became a senior advisor to the US government and founder of the Center for Civilian Biodefense Studies at Johns Hopkins University (Naraindas 2003). In his new role as the nation’s preeminent biosecurity expert, Henderson suggested that the “death” of the disease had turned smallpox into a dangerous weapon of mass destruction. Ironically, the eradication had created a unique opportunity for terrorist attacks because of the susceptibility of populations with no immunity. Tabletop simulations, developed and designed by Henderson and his colleagues, made the threat of bioterrorism concrete and credible. A 2001 staging of a gloomy scenario called Dark Winter modeled a smallpox attack on Oklahoma City (Lakoff 2008b, Masco 2014). It prompted an unprecedented campaign to vaccinate millions of first responders and stockpile enough vaccine for the entire American population (Rose 2008). Atlantic Storm, a tabletop exercise involving American and European government officials, simulated a series of smallpox attacks in multiple countries.

The growing concern about smallpox as a weapon of mass destruction reveals how the dreamworld of disease eradication made it possible for the terrifying affliction to return as a haunting specter. According to biosecurity experts, it was the dreamworld of disease eradication that prepared the ground for the ascendancy of smallpox as a biological weapon of mass destruction. Such irony refers us to the escalating dialectic of dreamworld and catastrophe that saturates the scene of security in the United States. In theatrical performances of collapse, where dark winters and Atlantic storms are raging remorselessly, the dreamworld returns to the catastrophe that it has never been able to escape. This explains, at least in part, the current proliferation of biosecurity.

The staging of apocalyptic scenarios is another proof of power’s desire “to mimic as well as manage” (Orr 2006, p. 14). The mimetic faculty has, in fact, itself become an important mode of management. Power’s task, in the mimetic theater of collapse, is to learn how to use the terror of terror as effectively as possible and reach an optimal level of public anxiety. Masco (2014) highlights the instrumental nature of the apocalyptic scenario and underscores that it is important to examine how security “installs as well as forestalls future disaster” (p. 206). In the scenario of security, “everything that can go wrong does go wrong,” observes Schoch-Spana (2004, p. 12). The mimetic theater of collapse makes it possible for the public to experience the

biological vulnerability of the population as a drama of inevitable failure. What such drama reflects is security's infelicity, its inability to protect people in the face of disaster.

Exploring the recent epidemic of scenario planning (Aradau & van Munster 2011; Armstrong 2012; Lakoff 2008b; Lentzos & Rose 2009; Masco 2012, 2014; Napier 2013; Samimian-Darash 2009, 2011; Schoch-Spana 2004), scholars have increasingly begun to uncover "the production of forms of insecurity by the security apparatus itself" (Barker 2012, p. 701). This production of insecurity will likely become the premise for how anthropologists and other social scientists study security as a "world-making project" (Masco 2014, p. 206). The concept of infelicity developed in this article is a first step toward a theorization of such world making. As Masco has argued, the rising number of biodefense laboratories conducting research with smallpox today has not only blurred the boundaries between defensive and offensive research. It has also increased the risk of accidents, abuse, and theft by terrorists. The new capacities to prevent catastrophic events have generated the conditions for those events to happen (Masco 2014). Security, according to Masco, has itself become a significant source of insecurity.

The escalating dialectic of dreamworld and catastrophe reached its climax in 2012, when microbiologists manipulated a strain of the H5N1 avian influenza virus in the laboratory, claiming that they had made the microbe more transmissible among humans. The scientists suggested that this kind of experimental research was essential for the prevention of a potential pandemic. Newspaper articles, however, called the engineered strain a doomsday virus that could kill millions of people if it was appropriated by terrorists or was released by accident. Hundreds of journal articles, opinion pieces, newspaper reports, and blog entries offered a broad range of suggestions on what should or should not be done with the potentially dangerous research. A prominent biosecurity advisory board of the US government recommended that the journals *Science* and *Nature* withdraw key details of the studies that would allow others to reproduce the experiments and replicate the virus in the test tube. The possibility of a catastrophe was at the heart of the apocalyptic sensibility that scientists, journalists, and government officials produced in the aftermath of the terrorist attacks of 2001 and the circulation of four letters laced with anthrax (Guillemin 2011). To speak in the name of security was to place oneself in a world of suspicion in which the nature of experimental research has become ever-more ambiguous. Will science save us, or will it kill us? The potentially catastrophic consequences of scientific research prepared the ground for the rise of a new "audit culture" (Strathern 2000), a "paralegal universe" (Butler 2004) of biosecurity regulation. The recommendations of biosecurity advisory boards were effective precisely because no one quite knew what their legal status was.

When biological vulnerability became a commodity, an infinite source of profit making appeared and the global bioeconomy prospered again. The outsourcing of biological security to private corporations and nongovernmental organizations generated a market for potential pathologies. This market was based on a form of speculation that was both a response to and an articulation of the presumed infinity of the biological threat; it created a scene of extreme expectation (Sunder Rajan 2006). Experts and officials presented the preparedness plan and the emergency kit as critical assets for citizens and communities. But security's promise was not a promise of health; it was a promise of survival, survival in times of crushed institutions, broken infrastructures, and minimal care.

The systems of surveillance that were constructed in the name of security resulted in an avalanche of false signals that were not related to actual cases of disease (Fearnley 2008b). Despite the waste of scarce public resources on secretive BioWatch programs, experts and officials considered the recurrent nature of false signals "necessary for maintaining sufficient vigilance for the unexpected" (Fearnley 2008b, p. 1627). But the concern with the biothreat not only triggered an epidemic of false alarms, but also inspired hundreds of hoaxes in the form of "white powder

events,” fake anthrax letters that placed an incredible burden on employees worldwide (Rappert & Lentz 2013). In February 2003, the US government staged its own “white powder event” when Secretary of State Colin Powell presented a test tube of “anthrax” at the United Nations Security Council to illustrate the threat and justify the war in Iraq. Randall Larsen, a retired US Army colonel, smuggled spores almost identical to anthrax into the White House. In a meeting with Vice President Dick Cheney, the colonel pulled the test tube from his briefcase to reveal security’s inability to bring about what it names. In these visions of vulnerability, white powder became an effective way of fabricating fear and motivating action. Security’s theater of collapse is a theater of shadows; it relies on the mimetic power of baking soda to fight against fatigue and realize the terror of terror. Debates about the accuracy, plausibility, and credibility of scenarios abound in the world of security, and experts and officials are afraid that the fiction might appear as what it is: fiction. The scenarios must be realistic. And yet, such scenarios might simultaneously provide terrorist groups with perfect recipes for future attacks. This is security’s infelicity; it grows the germs of its own destruction.

DISCLOSURE STATEMENT

The author is not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

ACKNOWLEDGMENTS

My thanks go to Maria José de Abreu, Jean-François Bissonnette, Des Fitzgerald, Anitra Grisales, Janina Kehr, Hanna Kienzler, Tara Mahfoud, Kaushik Sunder Rajan, and Andri Tschudi for suggestions and comments. Thanks also go to Julia Hornberger and Cori Hayden, as well as the participants of the workshop “Good Copy/Bad Copy” at the University of Konstanz. I am grateful to Nancy Chen, Javier Lezaun, Joe Masco, Natalie Porter, and Lesley Sharp for making unpublished work available to me.

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