War on All Fronts

A Theory of Health Security Justice

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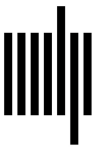

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4 The Impersonal Account of Disease

Of all the events of the COVID-19 pandemic to date, perhaps none were so chaotic as when on October 2, 2020, the *New York Times* among others reported that the American president, Donald J. Trump, had been diagnosed with COVID-19. Within that news lay the implicit tension for some: "The president's result came after he spent months playing down the severity of the outbreak that has killed more than 207,000 in the United States and hours after insisting that 'the end of the pandemic is in sight.'"[1] What came next seemed bizarre, even deranged to some. The president issued a series of televised statements claiming his imminent recovery; posed as if working at the Walter Reed National Military Medical Center, typically responsible for treating the president as the commander in chief of the US armed forces; and then a car ride through Washington, while still ill, in the presidential motorcade—vehicles sealed against chemical weapon attack, and thus unable to vent air or in any way reduce the risk the president's illness posed to Secret Service personnel. The president, moreover, had been on the campaign trail, and reports trickled in over the weekend of tests not taken, quarantines and isolation broken, and social distancing measures unobserved.[2]

Commentators and the public who, rightly disdainful of the president's actions, advocated criminalizing or otherwise holding accountable individuals who intentionally imposed others to the risk of infectious disease. Physician and onetime congressional candidate Dena Grayson claimed that Trump "knowingly expos[ing] hundreds of people to the deadly coronavirus on Thursday" had committed a crime and that the president should be charged with reckless endangerment.[3] Anne Margaret Daniel, a professor at the New School, implored the governors or Minnesota and Ohio to bring legal action against Trump for the felony crimes in those states of

transmitting an infectious disease.[4] Actor John Cusack promoted the view that "in a democracy, Trump would be charged with a violent felony."[5]

The calls emerged within the larger context of proposed criminalization, and ultimately militarization of COVID-19, spurred by anecdotes of individuals threatening to spread the virus to others,[6] and reports that terrorist organizations had considered spreading the virus.[7] Earlier in the year, Deputy Attorney General Jeffery Rosen had claimed that the virus that caused the disease appeared to meet the statutory definition of a biological agent, as used in US law codifying the Biological Weapons Convention.[8] This took COVID-19 beyond the criminalization of HIV/AIDS common to thirty-seven states in the USA,[9] and into considerations of national security. It arguably signaled the return of the weapons of mass destruction (WMD) aspects of the War on Terror to US soil in the form of considering an infectious disease state equivalent to a malevolent actor in possession of a biological weapon. Critics—including the author—replied that the criminalization of disease had, almost exclusively, resulted in more harms than benefits. Those harms, moreover, were not borne by presidents or rich, white businessmen of his ilk. Rather, they were borne by the vulnerable and marginalized—as author Laura Flanders wrote, "If the Donald was a poor man, poorly defended and in poor health, there's a good chance he'd be facing criminal charges."[10]

The identity of a belligerent has critical normative significance in a just theory of health security. First, even in war with humans, what we can do to enemy combatants is typically regarded to be less constrained than what we can do to bystanders in pursuit of our enemy.[11] So knowing who the enemy is, and defining them in a justifiable way, determines the moral permissibility of the kinds of acts we can make that violate individual rights.

Second, and critically, the identity of the "enemy" gives us insight into the appropriate structure of health security. A common historical theme in health security is to prepare for both naturally occurring and deliberately caused disease outbreaks in the same way: allocating funds to predict, surveil, and respond to disease outbreaks; structuring research around small groups of high-impact low-probability pathogens; and investing in public-private partnerships to incentivize the development of medical countermeasures. But rarely do we see expanded universal healthcare, investment in health systems that combat high-incidence as well as high-impact diseases, strengthening of our existing international health governance, or addressing the ongoing risks of climate change. This gap has been viewed with

intensely critical eyes from securitization theorists and adjacent scholars,[12] but the precise reasons *why* we should avoid this turn, and what role the norms of national security have in public health, are not well explored.[13]

In chapter 2, I provided three primary motivations for treating public health as a security threat, motivated by the "war metaphor," which provided an analogy between public health and armed conflict. Those motivations were:

1. The threat of infectious disease in terms of
   - the harm it causes;
   - the psychological effects it elicits;
   - as it alters community integrity, social function, and even national sovereignty;
2. The mobilization of resources (including people) and logistics required to respond to that threat, including the requirement for a separate *institution of the state*;
3. The nature of the decisions required by that institution, or its agents, to prosecute their justified aims.

In this chapter I address the first motivation, and flesh it out. The central purpose of this chapter, in building a theory of just health security, is to mount an argument for what I call an *impersonal account of disease* as the appropriate target of public health responses. On this account, the "enemy" in public health, properly defined and justified as a state institution, is the causative agent of disease. In defense against pandemic communicable diseases—and in keeping with this book's central topic—this causative agent will be a virus, bacterium, fungus, prion, or some other microbial organism. But other critical public health concerns arise from other nonhuman, impersonal sources, such as environmental pollutants or natural disasters. Importantly, humans on this account are often bystanders to this threat, and even when they not are not relevantly liable to harm by the state.

My aim with this account is to derive an account of *threat* that overcomes the more extreme realist leanings of health security. The normative and conceptual apparatus of national security is dangerous, as securitization scholars show, precisely because it creates an "us versus them" mentality that harms and marginalized communities[14] and weakens public health cooperation as nations seek to protect "us" against "others."[15] It generates, through intent or neglect, policies that frequently increase public health

risks rather than lessen them. But more, it generates an assumption that far from the much more demanding calculus of infringing on the rights of individuals only in dire circumstances, those rights are easily overridable because citizens are the threat to public health.

In what follows I argue that, like war, what motivates securitized public health responses is the scale of death and disruption disease involves. I then address one important account of threat in infectious disease, the "patient as victim and vector" view forwarded by Battin and colleagues.[16] I argue that this view first mistakes, or overemphasizes, causal contributions to harm as tracking *responsibility* for that harm. Second, it mistakes responsibility for imposing risk as *liability* for a coercive or dominating defensive response by another. Finally, the patient as victim and vector makes too much of the "relationality" between individuals, and—in a related but distinct way to the view of public health ethics that motivated Childress and colleagues, as I addressed in chapter 3—would better capture the morally relevant features of responding to infectious disease outbreaks understood in terms of domination, which changes the calculus of our response.

In almost all cases individuals and communities that are causally implicated in the spread of communicable disease are not necessarily *liable* for their actions. Drawing on the literature in the ethics of armed conflict, I contend that what generates the right to a defensive action is a responsible threat to an agent. I then argue that in the context of infectious diseases, specifying individuals as responsible threats is either (1) epistemically implausible, (2) misses a sizable chunk of what we care about in health security; (3) is ethically unjustified, or (4) misses the point from the perspective of public health response. While there are cases in which individual threats might motivate public health response, they are quite a bit rarer than is supposed, and not straightforwardly individuals with disease themselves. Rather, the threat of infectious disease is by and large best characterized as the threat of the causative agent of disease. I argue that because of this, we should take rights infringements of individuals incredibly seriously, given that individuals themselves are not threats, and thus should not incur the kinds of harm a public health emergency response can entail. This does not rule out public health acts, it but raises the bar to action because it must be a "least-worst" response, rather than one where individuals have become liable to response because of a positive reason to act against them.

I conclude with applied cases of this account of health security. First, I examine the role disease surveillance can play in preventing the emergence of disease epidemics and discuss how a non-liberty limiting account of surveillance might be constructed, including the use of ecological surveillance. I then turn to questions of failures to act in responding to a public health need as a source of health injustice, and the relationship between the *ad bellum* last resort condition and modern public health ethics. I conclude with a view of what I consider the primary objection people will have to take into account, those cases in which human actors do function as agents of disease, as a way to tightly define the scope of our concerns about public health threats *qua* human threats.

The Threat of Disease

In chapter 2, I claimed that the threat infectious diseases pose might warrant a securitized approach to public health. That threat may arise by virtue of the harms posed to or expected to threaten the public's health. It may also possess some psychological features that indicate it is a threat, such as a sense of immediacy or exigency posed against a community. Finally, the threat may arise in terms of a threat to community integrity or even national sovereignty.

When thinking about the moral justification for health security, with a focus on infectious disease in particular, threat is a good place to start.[17] Infectious diseases can cause public health crises on an enormous scale. This is why, for better or worse, we declared war on AIDS, which has killed approximately 40 million people worldwide since the beginning of the epidemic.[18] It is also why we declared a smaller defensive response against Ebola virus disease, which killed 11,000 people in West Africa and upended the economic and social conditions of three vulnerable countries.

But I have yet to see someone declare war, say, on road injuries, which kill more than a million people a year worldwide.[19] Road safety is surely an important and worthy topic of public health, and it does cause large numbers of deaths. But it seems strange to declare war against road fatalities. This certainly doesn't mean it is impossible, but I take it as indicative that the wars we declare on health issues are often (though not always) infectious diseases because of the scale, exigency, *and* overwhelming nature of those outbreaks.

Mere death or disability does not always engage the kinds of normative claims with which health security is concerned—even in infectious disease. We have not, to echo a claim made by conservative commentators in criticism of COVID-19 public health metaphors, declared war on influenza. This is despite influenza being a disease that in 2018 caused 35,000 deaths in the United States: when the American Medical Association "accepted the challenge to be in the forefront of [the] war on AIDS" in 1988, 16,602 deaths were attributed to HIV/AIDS.[20] It is not my purpose at this time to question whether or not we ought to have mobilized the war metaphor against HIV/AIDS, but it raises the question of "why the difference?" And *should we*, if we are justified in declaring war or mounting a securitized response to AIDS, make the same declaration on influenza?

The answer, I suspect, is partly in the second way that threat manifests—though for the wrong reasons. HIV/AIDS tapped into a deep concern and psychological vulnerability, but too little and too late. While the US government ignored HIV/AIDS, infamously to the point that President Reagan failed to mention the disease until the end of his administration, its increased attention tapped into two forms of psychological insecurity. The first was the totally justified fear by the LGBT community ravaged by the disease, whose activism turned that fear into direct action to compel the government to notice and address the crisis. The second was highly selective fear of HIV/AIDS among the "innocent," and in particular, individuals receiving blood transfusions. The wider public fear of AIDS that motivated the War on AIDS was, on most accounts, a reaction to a single "H," hemophiliacs (and other receiving regular transfusions), where homosexuals, heroin users, and Haitians would not motivate America to act on a disease epidemic.[21]

The psychological aspects of insecurity are neither a necessary nor sufficient condition for identifying a health security threat. Threats need not be recognized as such to kill you. I may be oblivious to all kinds of danger—such as the day-to-day risks I take on the road—that nonetheless are grave threats. A belligerent human aiming to harm you may ambush you because of the advantage conferred by the element of surprise. Conversely, I may have all kinds of deep fears about things that are low-level threats (e.g., the threat of international terrorism relative to domestic hate crimes), or are even totally fictional (e.g., the "Satanic Panic" of the 1980s).[22]

The third and final criterion is community integrity. Not all disease risks, even those that are very serious, threaten community integrity, even where

the morbidity and mortality of a disease are very high and very costly. The cost of Alzheimer's disease is very high, estimated to cost up to $2 trillion annually worldwide by 2030.[23] However, due to its concentration at the end of life it is unlikely that the high cost of that disease ultimately threatens the internal or external function of a community, much less state. High costs, in particular, are able to be borne under a public health state through progressive taxation mechanisms, and the appropriate financing of health.[24]

Other health crises, and in particular rapidly evolving infectious diseases, might threaten communities just because their death toll is concentrated in particularly devastating ways. Famously, the 1918 influenza epidemic, compared to seasonal influenza, disproportionately killed the young.[25] The AIDS epidemic was highly concentrated in marginalized communities, including the LGBT+ and sex worker communities. And a *Pro Publica* investigation in 2020 highlighted how the COVID-19 epidemic's disproportionate toll on young Black men has hollowed out communities around the United States. In this latter example, investigation showed that COVID-19 was often the final blow in a combination of institutionally racist policies and treatments, additional and systemic public health risks, and lack of access to care imposed on young Black men, weathered by resilient people but making them vulnerable to the SARS-CoV-2 virus and the disease it causes.[26] In a similar way to the effects of smallpox on Indigenous communities during the colonization of North America, what constitutes a catastrophe from which communities may never fully recover can be local, and proximate, rather than a more obvious ultimate and globe-spanning kind of catastrophe.

Because of the conflicting meanings of "threat," then, it is important to clarify what the appropriate locus of threat is. To start, while there is a relationship between community-level risks and individual risks, a "public health threat" does not obviously track mere individual risk. Public health is, at its best, a collective endeavor pursued to promote the health of communities. So even if the most direct causal effects—morbidity and mortality—inhere to individuals, its effects and our responses are often at the level of level communities. COVID-19 is a great example of this kind of threat. Individuals die of COVID-19 like any other respiratory illness, but the pandemic has also disrupted communities, made international travel unsafe, affected trade, put people out of work, and stressed social safety nets beyond breaking point. This stress, moreover, has affected not just those affected by COVID directly but those who have missed out on access to housing, social services,

employment, and medical care as secondary consequences of social disruption. This kind of threat is large in magnitude, and is, moreover, coordinated in the sense that COVID-19 is a pandemic with a coherent etiology.

What makes a threat special ethically, however, is that threats motivate a defensive response. This may be defense of oneself, or another. The language of threat, moreover, is not unknown to public health. In the United States, it is described in *Jacobson v. Massachusetts*:

> Upon these principles of self-defense, or paramount necessity, a community has the right to protect itself against an epidemic of disease which threatens the safety of its members.[27]

That is, a threat to community engenders community self-defense. But even if this is a universal idea, and not simply an artifact of American legal reasoning, it broaches the question of against whom, or what, we are defending. In the ethics of armed conflict there is broad agreement that an unjust threat against our lives—including a conditional threat, like an army threatening us[28]—permits us to engage in a proportionate and even lethal response. In the same way, just health security needs a referent: the thing that is *threatening* us.

In classical, conventional war, the threat is that of aggression, often between states.[29] That aggression prompts a reaction of self-defense, or defense of another through armed conflict, in which the military representatives of a belligerent state are subject to lethal use of force until peace is achieved.[30] But the literature on self-defense and threats is considerably more complex than that, and its principles may be applied to non-responsible threats—threats posed by actors who do not intend and may not even have a choice but to impose them[31]—and even nonhuman threats such as the threat of planetary destruction.[32] So there remains an open question about what it is that causes the threat that motivates our ability to defend ourselves against the threat of infectious disease.

Misclassifying this threat, moreover, can have serious consequences in practice. Annas identifies this in his analysis of "worst case thinking,"[33] focusing only on a prescribed set of actors and disease states and design policies in turn, which overemphasize these at the cost of other public health needs. Alternately, mischaracterizing the threat as human may lead to the worst impulses of human action, as individuals are vilified for a disease over which they have no control—revenge described as policy. In either case, these mischaracterizations either marginalize or neglect vulnerable people. In the case of COVID-19, these practices have arguably failed in their task of protecting

the world against a naturally occurring pathogen, while many billions of dollars of money in the developed world have been spent on homeland defense against much rarer pathogens such as anthrax attacks and Ebola virus disease, which have killed in the tens of thousands in the last decade, almost all of them in the context of a single outbreak in Western Africa.[34]

This might leave some to resist the idea of threat altogether as useful in public health. Such a move might be part of a larger abandonment of health security, or simply a partial rejection of its completeness. This is not without cause: securitization theorists will highlight damage that arises from treating people who suffer from disease as threats. The AIDS crisis I have already described is replete with unethical and unjust behavior that arose first from willful neglect of the crisis due to its association with gay men, and later the criminalization of AIDS status as a regressive policy that harmed meaningful, rights-respecting public health interventions.

I think, however, that an analysis of threat can serve two important roles. One is to play a negative role, in which we dispel dominant conventions around the locus of threat in health security as individual humans. The other is to play a positive role in identifying what it means for a nonhuman entity to be the appropriate locus of threat in health security, and what this means for public health emergencies. I deal with each in turn.

Victims and Vectors

For my negative project, I'll use an influential view on individual risk and threat of infectious disease called the "patient as victim and vector" view developed by Margaret Battin, Leslie Francis, Jay Jacobson, and Charles Smith. As one of the first comprehensive works on ethics and infectious disease, it is important both for its historical position written after SARS, H5N1, and the identification of extremely drug resistant tuberculosis, but prior to the H1N1 2009 pandemic. It is an early text identifying bioethics' lack of attention to infectious disease as an important topic.[35]

The patient as victim and vector view gives a simple, clear picture of threat in infectious disease: individuals are both victims of a disease and vectors of its spread. The authors state that individuals thus are at least partly blameworthy for disease transmission, and thus also partly responsible for preventing transmission events from occurring. In discussing responsibility for infectious disease transmission, they write

> Deliberately sneezing on one's competitor, having sex when one is aware of the possibility of transmitting disease, like chlamydia or syphilis—these are (ir)responsible acts. Similar notions of responsibility, praise, and blame apply to them, as the reckless acts that persons at risk: leaving toxic waste near a playground, having sex without protection against unwanted pregnancy, and so on.[36]

That is, we are responsible for our acts on everything from a deliberate sneeze to sex, if there is a possibility of transmitting disease. They conclude that even in unaware acts of disease transmission, we may still make choices in our lives that expose individuals to risk even if we are not aware of our infectiousness or disease state.[37]

The authors go on, however, to note that because of the complex webs of disease transmission, there is no "source" and no endpoint for disease transmission. Humans are described as "way-stations" and "launch-pads for infectious diseases. When considering knowing whether we can foresee our disease state or our chance of transmission, further, the authors claim

> The metaphysical status of human beings as individuals—their physical as well as social *locatedness*, their *embeddedness* among others who are also sway-stations and launching-pads for dangerous as well as benign microorganisms—cuts against binary judgements that people either are responsible or not responsible, blameworthy or not blameworthy.

They claim, then, that individuals are embedded in a complex web in which their responsibility for disease transmission is offset by their ability to blame others for giving them a disease in the first place. Because of this, individuals can justifiably be imposed upon to prevent these interactions, including in ways that cut against their self-interest or their civil, economic, and social rights. But this must be done, the authors claim, always with the additional "perspective of the patient as victim." Following on from Rawls's famous thought experiment in which hypothetical members of a society are asked to identify what arrangements of institutions they prefer, Battin and colleagues argue individuals deeply uncertain about their status as either victim or vector will adopt a "we are all in this together" perspective, striving to do the best, as a matter of solidarity; that is, maximize the minimum for each and every one—rather than generating a better average—with respect both to our susceptibility to disease and what is needed to reduce the overall burden of disease.[38]

I will leave the authors' account of Rawls, and how their conception of threat fits into a larger political philosophy of public health, for the next

chapter. For now, their conception of public health threat is my concern as it captures some of the intuitions people seem to have around threat and infectious disease. It provides a view of the relationship between risk and threat in public health: that individuals are constantly aggressor and defender against an onslaught of potential infectious risks.[39] It also articulates what I think many would find a plausible view of that threat and our response to it: that when individuals threaten us, they waive certain rights not to be treated a certain way. The constancy of these interactions does a lot of work here, by creating a presumptive case for regarding ourselves as potential disease transmitters and receivers, and thus giving us no reason not to act as if we were a risk (and at risk).

This view, however, does too much on the one hand and not enough on the other. For a start, it is simply empirically false that, as the authors describe it, there is no beginning and end to infectious disease. This is true perhaps for some diseases, but certainly not others—and certainly not the ones that health security typically regards as threats. Even the examples that are used by Battin and colleagues—HIV/AIDS, tuberculosis, influenza—are all zoonotic pathogens. They arise in animal hosts and transmit to humans. So, unless Battin and colleagues have an account of responsibility in minds for poultry, cattle, and great apes, their account is empirically unsound for a great many infectious diseases. Diseases do come from somewhere.

I imagine that Battin and colleagues would reply that while this is true for any one infectious disease, the "web of disease"[40] writ large is the basis for their theorizing. But if we take this tack, we get something that looks more like a social scheme of risk sharing, than one in which arguments from responsibility or threat are strictly necessary. Individuals might engage in socially sanctioned activities that involve mutual risk impositions *without giving up their rights* in any meaningful way. We all drive on the roads and risk each other's lives every time we do so. While we are responsible for harm and may be responsible in a causally and even ethically meaningful way, it does not involve a strong waiver of our rights. In fact, access to the road as part of a scheme of social sharing of risk might constitute a *promotion* of our rights to movement and mobility. Instead of leaving people to fend for themselves and/or simply punishing noncompliance, we have constructed broad (though arguably neither broad nor strong enough) regulatory systems to cover insurance, licensing, road safety, traffic data, highway maintenance, and so on. Car crashes impose a serious risk of death, and at

more than a million deaths per year worldwide, they are as great a source of mortality as many infectious diseases. Yet we do not presumptively lock up individuals on the suspicion they may cause a car accident to another or teach another to drive as recklessly as they can. Nor do we hold them to be threats at every turn.

The distinction between road safety and infectious disease, moreover, is not totally explained by the capacity of onward transmission of infectious disease—tuberculosis can spread rapidly in resource-poor settings, but its ability to reproduce in developed nations, the primary target of Battin and colleagues' analysis, is quite limited. When describing the forced isolation of a homeless man, Mr. K., the authors go so far as to say that the difficulty is not "whether," but "how" compelled isolation should occur.[41] But why should this be the case? We might impose a financial burden on Mr. K. or others buying a car, or an educational burden in getting a license, but we again do not presumptively restrict a major liberty like freedom of movement on the basis that they may at some future time kill someone. And—in general terms, as a statistical member of the United States, in which his case is set—he is much more likely to kill someone with a car than he is with an infectious disease, at least outside of a major crisis like COVID-19. Note, further, that I'm not saying we shouldn't isolate some kinds of patients, even forcing them to be so. However, the web of prevention model doesn't account for this in the right way.

The web of disease account by Battin and colleagues entails a threat-based analysis. In writing about pandemic responses such as community level quarantine, Battin and colleagues argue that personal security for quarantined individuals is important:

> A common social response by people who feel threatened toward people they view as threats is to try to destroy the threat by driving them away, harming, or killing. These may be understandable and even justifiable responses to aggressors of various sorts. But to regard people who have communicable infectious diseases in this way is to regard them as vectors only, and to overlook that they are already victims as well. Infectious vectors are not only aggressors—if they even can be called that—but also people themselves under threat.[42]

This explicitly identifies individuals with communicable diseases as threats. And importantly, it does not *deny* they are threats, but rather says that our responses to threats, while justifiable in other cases, are not justifiable in communicable diseases because individuals are also victims.

But what comes of this double "threat-and-victim" analysis is mysterious. Just because someone is themselves under threat does not necessarily undermine our justification for exercising permissible self-defense, even lethal self-defense. This is the heart of the justification for killing in war. Just because I am under threat by person A does not mean that the threat I pose to person B is lessened or mitigated. There might be other reasons to refrain from harming me—such as if I am a soldier engaged in a just war[43]—but the mere fact that I am similarly under threat does not obviate the threat I pose to others.

We could construct an account of individuals with communicable diseases as a threat, but it is far more restrictive than Battin and colleagues admit. More often than not, individuals infected with a communicable disease pose what we might call a "nonresponsible threat." That is, they unknowingly threaten to harm others in a way for which they are not liable and are in no way morally responsible.[44] The classic example given here is that of a man pushed from a cliff by a third party and falling toward me. Due to a lack of time to react, I will either be killed (and the man will live), or I can open a large umbrella and impale the man on it. Jeff McMahan points out that while there is a strong intuition that we are justified in enacting defensive harm against nonresponsible threats, we lack good reasons to do so. Importantly, threat has not violated our right not to be harmed—insofar as a right is something we have against others that means they are constrained in their behavior, we cannot be constrained in our behavior when that behavior is something we have no control over. I have a right violated by the villain who pushed the man off the cliff, but not the man himself. He is equivalent to a bystander in terms of my right to a defense response based on *his* liability as a threat.[45]

An extension of this example would be a kind of iterative "falling man" case. Instead of one falling man, we could imagine a falling man has been knocked off the cliff by another falling person on a terrace above, and they by another, and so on. Much like the spread of infectious disease, there is a sequence of causal events that make the falling individuals all threats to the person immediately next in the sequence. But at no point have any of them become liable for their actions, and thus they have not given up their rights against harm. My justification, and indeed anyone's justification to exercise self-defense against these threats, is not "balanced" by the victim view, in this case either.

In a similar way to the falling man, in most cases of communicable disease an individual with a disease is not morally different from a bystander who poses no threat at all. In both cases, the threat exists, but the individual hasn't forfeited their rights. Individuals with communicable disease are then more analogous to noncombatants in a war zone. They may at times pose nonresponsible threats to others, but this alone does not give us a justification to harm them in return, including by violating their rights. Rather, we require an argument in which the harms that we are preventing in responding to a threat are proportionate to the kinds of harm we are inflicting on innocent threats. But note that this kind of "least-worst harm" argument does not depend on liability, but on proportionality, necessity, and last resort alone.[46]

An easy objection to this is that many individuals perform acts that arguably and knowingly put others at risk. For example, they go to work while sick knowing they could spread disease to others. This forms part of the relational turn that Battin and colleagues impress, in which we are all simultaneously threatening each other in more or less responsible ways. But I think this speaks less to the nature of the interactions the individual has with other individuals, and more to the way their interactions may be (often unjustly) constrained by the society in which they live. Individuals engaging in high-risk behaviors may have a low-wage jobs they rely on for subsistence, or elderly parents that need care, or housing insecurity, or vulnerable immigration status, or simply lack access to healthcare with which they could get medical treatment if they did, in fact, have a disease! These and many other reasons may make someone put themselves in a situation where they expose others to risk in the name of a serious need. Moreover, the nature of public health threats, as I mentioned in chapter 2, are those that individuals are ill-equipped to prepare for alone, and in fact may be penalized in non-pandemic times for doing so.

These individuals, we can say, are *dominated*, meaning their options for acting are restricted on an arbitrary basis.[47] In the above cases, individuals may be implicated in risking the transmission of disease, but their choices are arbitrarily restricted by the kind of society built around them, long-standing historic injustices, and their social mores—even those otherwise encouraged by a society that now demands differently of them.

Dominated individuals aren't nonresponsible threats in the same way as someone innocently shedding virus. But nor are they necessarily liable

to defensive harms. To begin, the individuals that might be threatened in these cases may have considerable latitude to avoid a threat—and bear in mind that these dominated individuals are not seeking to harm others but are (1) a component of the causal path through which harm is produced, and (2) placed into a position in this path by virtue of their circumstances. These individuals could plausibly be avoided in many cases or could have the risk they produce reduced in other ways. In this case, their status as vectors is *just* their status as victims. While not the same as the nonresponsible threat in that they strictly speaking have some choice, those choices are extremely limited. Moreover, we may have ways to avoid them entirely, or reduce their risk below the level at which they are a threat to us.[48]

It would be remiss to avoid discussion of individuals who either spread an infectious disease intentionally or who oppose certain kinds of public health measures on spurious grounds. The most obvious and targeted group of these are the unvaccinated. But here, it is not clear that a choice to impose greater risk on others in the event I become a nonresponsible threat is sufficient for me to constitute a threat liable for a defense response. It is certainly wrong of me to increase the chance that I infect someone with a disease if I have an easily available alternative.[49] But that does not necessarily make me more liable for defensive harms just in case I am then put in a circumstance where I unintentionally infect someone. This is like asking why the man falling from the cliff was so close when he fell or was pushed. There is something in the story that made his imposing risk of harm to me more likely, but that does not necessarily generate his liability to be harmed.

In some rare cases, individuals may be liable for defensive harms. The cases I have in mind include, for example, individuals who are aggressive, or act in ways that constitute deliberate acts of disease transmission, such as spitting on people, removing their masks and getting inappropriately close to others, forcibly removing others' masks, and so on. These are individuals that are responsible aggressors. But here, their victim status seems irrelevant. In fact, in legal terms, most of them have already engaged in battery and may be liable in some jurisdictions to self-defensive responses on that alone. But I note that these are very small numbers of cases, much smaller than simple vaccine refusal. Vaccine refusers, in my experience, are often *terrified* of infectious disease, but they have other reasons for imposing risk on the community, rather than being positively interested in causing its spread.

This, then, is the summation of the failure of the patient as victim and vector view. Simply being causally implicated in infectious disease transmission *at the moment of transmission* is not a good measure of our responsibility for that transmission, much less for our liability to be subject to reprisals or liberty-infringing public health measures. The patient as victim and vector, paradoxically, critiques bioethics for its reductive individualism but then resorts to a reductive and individualist conception of public health. Resolving this is an important step in an account of threat in infectious disease. But it can't be done merely through an account of responsibility. Moreover, it can't be done by merely presuming that anyone, at any time, is responsible for disease transmission in a particular way.

An Impersonal Account of Disease

The negative account above shows us how an account of threat posed by humans doesn't quite capture what proponents think when considering threat in public health. A concept of threat might be more useful if we can divorce it from the idea that people are the primary locus of threat to health security. Of course, if and when a biological weapon is used, individuals might be the primary threat—the weaponeers, terrorists, or states that are creating and using a biological weapon. But health security is considerably broader than the issue of biological weapons, and thus examining it in the context of naturally occurring diseases is a first port of call.

The first reason to abandon the anthropocentric view of threat is that, in the broader context of infectious disease, considering humans as the locus of our concern ignores the vast array of nonhuman, non-agential, microbial threats that exist outside of humans *for now.* A central concern of those preparing for and responding to disease pandemics are zoonotic pandemics, those that cross from animals into humans. It seems absurd to imagine that an account of public health threat that only imagines disease becomes a threat when it crosses into humans, any more than it imagines that a forest fire only threatens a town when the first house burns. An account of threat must be broader than that.

Even within humans, imagining humans as threats from the perspective of public health likewise seems mistaken. People are causally implicated in *harm* all the time when we consider infectious disease. The most obvious of these is

when we transmit the causative agent of infectious disease to each other. This could be the flu, Ebola virus disease, or a yeast infection. In all of these you are harmed, even if I am unaware I've harmed you. Yet whether I am a threat to you, and that threat arises to make me liable to a defense response, is unclear.

The reasons for that are borne out in related literatures on threat. Consider the unjust combatant hiding among an unwitting group of civilians. Are we permitted to bomb those civilians just in case that combatant is there? Most serious accounts say that on the face of things no, we are not. This is true even if the civilians make it difficult for us to otherwise act against the combatant. Why? Because those civilians, despite unwittingly being causally implicated in some future harm in virtue of shielding the combatant, retain their rights. So too, just because we may unwittingly—say, in asymptomatic cases—play host to a virus does not mean that we lose our rights merely because we are causally implicated for the harms we choose. And importantly, at least in the ethics of armed conflict, this is true even if the civilians are sympathetic to the insurgent, or merely hostile to us.

If involvement in causal stories were sufficient, moreover, we would be permitted to act defensively against all manner of people. It seems plausible, for example, that voting for Ronald Reagan did more to harm US public health through the trajectory of the AIDS crisis alone than any individual currently host to a particular biological pathogen. Even if Reagan voters were not aware that infectious diseases would be the scourge of the twenty-first century, they were still causally responsible for where we are today. But I think people who argue that we should deny people who refuse to get vaccines access to medical insurance would balk at denying Reagan voters (or G. H. W Bush voters, or Clinton voters, or G. W. Bush voters, etc.) access to medical care based on their causal responsibility for pandemic disease.

This is not to deny that individuals may act in a way that increases the risk of transmission of disease. What it poses, however, is a question of how public health actors and policies should regard liability for that risk when choosing actions that infringe on individual rights. And here, the reasons seem thin. Public health policies act on whole communities, sometimes entire nations. If liable threats matter from a normative perspective, they matter at best as secondary considerations; most individuals are either unaware of the risk they pose to others or are in a compromised position by virtue of their arrangement of power in society. And if the response is genuinely

necessary, proportionate, and a last resort, liability may be irrelevant: whether an individual is liable to a defensive action just doesn't matter for the purpose of preventing the spread of disease in critical cases.

Here, then, is a case where one can use militarized metaphors in a way that is contrary to mainstream securitized approaches to public health. If healthcare workers are the equivalent to warfighters on the front line, the infected public isn't the equivalent of enemy. The public, rather, is equivalent to noncombatant civilians—even if they are at times hostile or uncooperative civilians, who are absolutely a feature of war. They might be hostages to a disease; they might be human shields. Yes, they sometimes might act in ways that make the enemy's job easier. Some may see the chaos as an opportunity to advance their own ends inside the strife. But they aren't the enemy. What we do in response to their needs, especially when the fate of communities or nations is on the line, is a tricky normative question. But this account of what the public counts transitions us from understanding the public as a threat, much less a threat subject to defensive means by the state, to something requiring considerably stronger moral considerations to target.

Instead, it is the causative agent of disease that is the enemy, and a threat liable to defensive measures. The reference of a non-agential threat may strike some as odd. Rights to self-defense don't inhere in nonsentient beings. I can't exercise my right to self-defense against a toaster unless it is thrown, or dropped, or otherwise used by someone against me. And then my right to self-defense isn't against the toaster, but it's against my attacker. So why should a virus be any different?

This is where we must be careful about what motivates public health, rather than war. War is an exercise of defense of a state against a belligerent: the right of collective self-defense is deeply contested;[50] we typically envisage it against other humans. But we could imagine an armed conflict that mobilized the tools of the state against a non-agent, however. Imagine an army of sophisticated but nonsentient robots, arriving in our solar system with no sentient leader behind them, with simple orders to exterminate humans. Here, I think almost everyone would say that if there is any justification for the use of the armed forces, it is this one! And I think we'd recognize this as war. Even if the use of force is against non-agents, we would still recognize this as some kind of war. It occupies a similar understanding

of threat and would require a similar institutional response by states (if not the whole world).

And yet some of the limits of the just war would still apply. Obviously, we can't harm these robots assuming, as we do, that they are not sentient. But war is still hell. If there's some way to prevent the robots from executing their plan without resorting to a catastrophic armed conflict, we should. Not because of the robots, of course: you can't harm a toaster. But you can harm any civilians in theater, and they still matter. This provides both *ad bellum* restrictions, in terms of the decision to mobilize and choose to use that kind of force, and *in bello* in how that force is prosecuted. This is because modern wars are not simply a series of isolated skirmishes but are often industrial affairs that cause harms and violations well beyond the scope of a gun.

The analogy, I take it, is similar. The biological robots called viruses, or their living cousins in other kingdoms,[51] are not sentient. But there is still a case to be made for limits to the kind of force we bring to bear in defending against them, through the institution of public health. In particular, because of the deep costs to humans in mobilizing a public health emergency response, a premium should be placed on avoiding a public health emergency where possible.

This account of public health is homologous, as I noted in the previous chapter, with the basic tenets of just war theory. War is, among other things, a last resort, the option of communities—usually states—when diplomacy has failed. Likewise, public health is, among other things, the task of preventing crises from emerging. Only when we fail does the logic of the health emergency take form. Health security is a departure from routine public health, our analog to peace. But, because of the world as it is, we are justified in preparing for, and thinking through, what happens when we must go to war against disease.

Contingent Pacifism

This impersonal account provides an instrument with which to critically engage public and global health. While we may be justified invoking emergency responses as a last resort, what constitutes a "last resort" is substantially stronger than it appears on its face. Recall that for many, if not most, the threat of disease is either epistemically unavailable to them because they

don't or can't know they are infected or, even if they could know, they are unable to respond in a way that protects them and others sufficiently to prevent a global pandemic.

In chapter 2, I introduced the basic idea of contingent pacifism. In the context of armed conflict, Larry May presents contingent pacifism as follows. Traditionally the ethics of armed conflict is cast as a debate between pacifists, who think that no war is ever justified, and realists, who think that war is a normal and indeed permissible extension of state power. Just war theory seeks to find an alternate position of these two views. May argues, however, that rather than just war theory giving us a reason to reject realism, it rather is better positioned historically and normatively to give us a reason to reject pacifism.[52] Contingent pacifism emerges from this inversion to claim not that all wars are unjust, *contra* absolute pacifism: just that all wars that have actually happened, and are likely to happen in the world as it is, are unjust. Part of the reasons for this is that taken seriously, the criteria for declaring war, and then waging it justly, are so demanding the war is almost never necessary, proportionate, a last resort, or pursued for a just cause.[53] Moreover, while wars can be just in one and only one way—a just declaration, just conduct, and just resolution—they can be unjust in many ways.[54] They can be unjustly declared but justly conducted; justly declared and fought but unjustly ended, and so on. Contingent pacifism provides not just a way to specify that wars are frequently if not always unjust in practice but how and why they are unjust, and how the world should change in response to this.

As with war, again, so with public health. Health security's normative foundations, especially in the United States, have largely emerged from what we might consider the equivalent of a realist framework: in armed conflict, the view that war is simply an extension of politics, an inevitable part of the anarchical fabric of international relations. In health security, the realist turn produces scholarship and policy that seek to prevent and respond to disasters but rarely engages substantively with questions of justice within which health emergencies arise.[55] It produces wargame scenarios describing mass casualty events, but—despite acknowledging the fragmented and weak state of American healthcare is likely to be a vulnerability in the nation's defense against infectious disease[56]—it never broaches the question of whether a national health system or insurance would be useful in preventing such a disaster from unfolding.[57] It calls for informing the public about public health actions rapidly,[58] but rarely connects this to larger political issues

around the fragmented nature of American public health and marginalized citizens' justified distrust of those systems. And it advocates high science and technology in the form of disease forecasting using real-time health data, among others, but avoids the problem that health data is fragmented and of poor quality precisely because of the commodification of American healthcare.[59] It takes the position, finally, that conflicts between rights are likely and inevitable and seeks to work back from this supposed reality to a position of relative security against communicable diseases.

To restate, health security in practice looks much like a realist school in international relations. Most contemporary health security takes, though never explicitly, the idea that the existing politics of health are simply the ground truth in which it operates, and that this ground truth has no ethical content in and of itself. How states manage health is divorced from how they ought to care about health security.

This position, however, is methodologically backwards and lacking strong, primary moral justification. Rather, an approach that corresponds with contingent pacifism seems a fruitful starting point. This position asserts that health rights, among others, are critical and near inviolable. These rights extend broadly from individual medical care out to international (even global) health governance. They are, moreover, inseparable from broader political, social, economic, and social rights. Needing to make trade-offs of the kind that health security and the orthodox position envisions, is in principle possible but in practice is rarely inevitable or necessary and may never even be just in the real world. It should only be taken as a last resort, when our ability to negotiate with ourselves and with our natural environment has broken down.

We don't need to be what I consider to be the public health equivalent of a pacifist, or what Gostin accuses individuals such as Annas of in his comments on "left libertarians." But we can accept that, as a critical move, no public health emergency has or could be just in the world in which we live, because none took the threat of the causal agent of disease, and the lack of liability of individuals, seriously: evidenced alone by decades of repeat, unheeded calls that we are "not ready for the next pandemic."[60] This doesn't discount that public health emergency actions may be required to respond to the threat of disease. But even if we are forced to act this way, we might not satisfy the demands of just health security.

Ecology

If the causative agent of disease is the enemy, then where the enemy comes from matters. Particularly in a securitized public health setting, the idea that communicable disease threatens a community is central to justifying the defense of communities in public health. As this is a book about public health crises, a central question is where likely pandemic diseases will emerge.

Where the rubber hits the road is in creating the conditions that cause pandemics to arise. Not all pandemics have their origins in human affairs, but many do. The emergence of coronaviruses as zoonotic pandemic pathogens has been linked to encroachments on the natural habitats of bats and other intermediate species.[61] Flu is primarily an avian disease, but increasing interaction between displaced wild bird populations and domestic fowl or pigs creates the opportunity for spillover events.[62] Likewise, the deforestation caused by heavy industry in sub-Saharan Africa drives the emergence of Ebola virus disease.[63]

The density of pathogens is linked closely, moreover, to biodiversity. The most biodiverse areas on the planet, however, have long histories of colonization and resource exploitation that have seriously, and perhaps irrevocably, damaged these landscapes. Our obligations to prevent public health emergency are shaped, on a basic level, by the background institutions of nations and indeed the global community.

Climate change renders all this more extreme. The emergence of Zika virus as a public health emergency of international concern in Latin America has been tied to the increasing ranges of the *Aedes* mosquito, which transmits Zika but also Yellow Fever and other deadly diseases. As the globe warms from anthropogenic climate change, these host ranges are projected to change further, driving increasing numbers of pandemics.[64]

A contingent pacifist position of public health holds, as its analogue in just war, that the use of force to manage a public health crisis is justified only as a last resort. This is because the emergency responses we have seen in the context of COVID-19 are only justified when we have done what we can to prevent needing to declare an emergency. Yet it is hard to see how we are anywhere close to that last resort, given the current international approach to climate change and the ongoing and systemic deprivations in our world. Take the 2013–2016 Ebola outbreak, credited sometimes as a disease brought about by "bushmeat."[65] Yet a closer examination of the crisis

shows that outbreak was brought about, in no small part, by the legacy of colonialism and civil war, and exploitative industrial practices by developed nations in Western Africa that left the three target countries unable to defend themselves, through conventional public health, from the virus.[66] This is not a claim against the nations of Liberia, Sierra Leone, and Guinea, but rather a claim against the nations who, over the last hundred years, have systematically deprived these nations of their ability to withstand a disease epidemic of this kind. The most recent outbreak of Ebola virus disease in Kivu province of the Democratic Republic of the Congo, similarly, arose in part because of ongoing civil conflict borne of Belgian colonization.[67] COVID-19 has been likewise credited, among other things, as a product of global trends toward insular responses, away from global solidarity, and away from robust public health.[68]

In all these cases, to paraphrase a famous thought experiment by David Mitchell and Robert Webb, we are the bad guys.[69] The impersonal account of disease pits us against the causative agent of disease, yes. But any serious look at the actions of humans on this planet identifies us as *a*, if not *the*, belligerent party in many if not most of these conflicts. Infectious disease is indeed terrible, but it is as much a consequence of human interference with natural environments as it is anything else.

This is not, of course, to say that humans must ultimately bear the fate of infectious disease.[70] Rather, the liability resides with states individually and jointly to invest in mechanisms that prevent the need for public health emergency responses. Climate change mitigation, then, is not only a justified public health measure; it is *obligatory* just in case it presents a tractable and less coercive alternative to another public health crisis like COVID-19. Likewise, policies that allow initially symptomatic individuals to report their symptoms, undergo isolation and care without fear of reprisals or domination, are not just desirable but obligatory just in case it prevents the seeding of a global pandemic. It arguably unites the twin tasks of universal health coverage and health security. It is not enough to have a strong medical system, vaccines, and medical countermeasures to pathogens of concern. Rather, individuals need to be able to access that health system with relative confidence in their treatment and outcomes in order to prevent a health emergency from arising.

This provides us with, in philosophical terms, a compelling ideal theory. It does not abandon the basic tenets of health security, but nor does it grant

them a starting position akin to political realism. Rather, it takes as its starting point the view that communicable disease pandemics are indeed a true threat to humans and their communities. It inverts this, however, to say that because of the source of that threat, and the people that are harmed in the process of mobilizing state power in emergent contexts, we should avoid the conflict where possible.

Objections and Complications

An easy response to all of this is as follows. Sure, the impersonal account of disease is desirable. But, if we are going to combat infectious disease, we have to account for the actions of individuals and groups that either deliberately spread disease or take actions they know or should reasonably expect to cause the transmission of infectious disease. Sometimes, individuals are complicit in the spread of disease, and on a mass scale. We might note observations of the outsized role that "superspreading events" play in the transmission of COVID-19 as evidence that particular individuals are responsible for a large number of cases.[71]

The term "super spreader" has its own terrible history that I will not get into here, and perhaps there is partial victory in the assignment of that phrase to events and no longer people.[72] To address this let's set aside first the role of congregate settings in super spreading events, as these fall neatly into my previous analysis. The US meat industry, or prison system, are both settings of horrific injustices that coerce and dominate individuals, and their responsibility in super spreading events is a nonstarter. For those that are left, the question then becomes twofold, between principles and policies.

I maintain that even with this remainder, there remains an open question about the degree to which individuals are responsible for something like a super-spreader event. The first part of that question is simply empirical, and it goes back to the HIV/AIDS crisis. The original "patient zero," Gaëten Dugas, was considered for a long time to be the origin of the disease in the United States, until later studies confirmed that he was one of only many early cases in the 1970s.[73] So there are frequently empirical uncertainties in establishing that someone is responsible for spreading disease, much less that they are responsible for a particular cluster. And, given that most individuals are not liable to a defensive response, we should hold our priors

strongly against being able to identify such individuals and refrain from unjustly harming them.[74]

But beyond this, I suspect, as above, that the actual degree to which we can hold individuals responsible is simply suspect. Very few nations adopt not just as social mores but as institutional and organizational policy that if you are sick, you should stay home. The United States is a nation in which going to work, or even just out into public sick is not only expected—it is socially enforced through a web of esteem. One study found that 38 percent of Americans admit to working while sick, and the overwhelming majority of those work while infected with a respiratory virus.[75] This is undoubtedly different in countries with more robust social welfare systems, but paid time off among other support systems to encourage individuals to socially distance is highly heterogeneous worldwide. We should ask carefully, then, the degree to which we have set up a society where we really take the idea that people are responsible for transmitting infectious disease seriously, given we routinely tell them they should risk others as a matter of course. This looks more like a social system of risk sharing: and if that is true but also undesirable, we are obligated to change the system of sharing rather than punish people for it.

A second foreseeable objection is the degree to which this account of the impersonal account of disease is compatible with the rest of public health. Even if we accepted this account for communicable diseases and pandemics in particular, there is a general predisposition in public health toward identifying the behavioral causes of diseases. This is perhaps best summed up in McGinnis and Foege's "Actual Causes of Death in the United States," which in 1993 identified individual behavioral traits—smoking status, dietary choices, activity, and alcohol—as the "actual" contributors to mortality in the United States.[76]

This is an old debate in public health and there is not sufficient time to cover it all. McGinnis and Foege's analysis is by their admission driven partly by the factors they can quantify; the ability to measure something, however, is not evidence that it is the relevant cause of that thing. The pair do acknowledge the "Whitehall study" of British civil servants that identified a relationship between salary and incidence of coronary heart disease, commonly seen as the progenitor of the "social determinants of health" movement.[77] These divergences point to a large normative issue in American public health, and insofar as the impersonal account of disease is anything,

it is an extension of that larger debate that falls squarely into the latter camp. And while the impersonal account of disease is primarily positioned to account for health security concerns, it can give a normative account of why McGinnis and Foege, and indeed other writers, are wrong to identify diet or other "actual" cause of disease as the product of mere individual choice. That account is of domination—dietary behaviors, among others, are strongly moderated by access to food, ability to purchase, and time to prepare, all of which are determined by the social factors that arbitrarily restrict people's choices.[78] This isn't to discount the autonomy of individuals, as domination is a political philosophical account of freedom rather than an individual normative capacity like autonomy.[79] Rather, the impersonal account of disease says about noncommunicable diseases the same as it does communicable diseases: there is little justification, and little truth, in considering individuals as threats to the public in view of their disease state that justifies a defensive response. As I will discuss in the next chapter, there may even be reasons where there is broad societal agreement that some states of ill-health are not only permissible, but that society ought to support through public health and health care regardless.

A final concern is that there may be a segment of society that is, in effect, helping the enemy—that is, individuals who are either intentionally helping the spread of disease or are acting in such a way that the spread of disease furthers their instrumental goals. Here, too, the war metaphor can help us. It may be that sometimes we perform acts that infringe on civilian rights when those civilians pose an operational risk to a justified war. However, again the concern about intentionality is perhaps important only in terms of the proportionality if we assume that intention tracks effectiveness in some way. Whether individuals compromise an operation accidentally (by shouting in exclamation because they are surprised) or intentionally (to alert the enemy) is beside the point. The question is whether there is proportionate reason to infringe on their rights to prevent some other harm and achieve a necessary aim to end a crisis.[80]

There may be a time, however, when officials, or personnel, are guilty of something like *perfidy*, the crime of wearing the colors of allies when one is an enemy. That is, they might be able to help with response to a pandemic, or preventing a pandemic, but ultimately and intentionally decide to act in a way that knowingly causes death by infectious disease when they are tasked with protecting people against a pandemic. This is a serious charge,

and how it fits into health security requires a deeper interrogation into the roles of officials in a public health institution. But two things are worth noting here. The first is that similar to distinctions in war, what it means for members of an armed forces unit to commit wrongdoing is professionally linked to the powers they have to achieve their goals. So committing wrongdoing as professionals is significantly more morally weighty than committing wrongdoing by noncombatants, even if that wrongdoing is quite serious. But the second, and more important clarification is that what it means to hold those professionals accountable, and how we do so, is a contested area. Punitive measures may be insufficient in cases of mass harm, and restorative measures such as truth and reconciliation commissions may be more appropriate. How we resolve this is beyond the scope of this book. But I note we are less likely to be able to plausibly accuse a neighbor of perfidy for refusing to mask, than we are a senator who uses knowledge of the pandemic to alter policy for financial gain.

Conclusion

In this chapter I established the impersonal account of the threat of disease: one in which the appropriate referent of a health security threat is, in the case of naturally arising diseases, the causative agent of communicable disease. I showed how this connected to larger analogues to the ethics of war, and how the disruption of a health emergency establishes a last resort clause in the deflation of health emergency. This last resort clause, I concluded, was strong enough that it established strong obligations to prevent the contexts that lead to pandemics, including the environmental, national structural, and international political contexts that create the conditions in which pandemics thrive and require limits on liberty.

In the next chapter, we can complete an account of the ethics of declaring a public health emergency by addressing health emergencies directly. Having completed an account of the public health state, and the appropriate threat against which it can be mobilized in liberty-limiting ways, we can now establish a set of criteria for justly declaring a public health emergency.

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