Pandemics Between Material Causes and Figurative/Ideological Interpretations

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Paradoxically, during the long months of the COVID-19 pandemic, many people hoped for a return to normalcy and at the same time believed that what they were enduring belonged to those one-of-a-kind experiences that should deeply change their way of living. Today, without having undergone those radical changes that we hoped for, everything seems to have come back to business as usual. Indeed, the coronavirus has turned out to be not an epidemiological singularity but rather a globally registered new pandemic threat, one of many that emerge nearly every year (Jeffries 2020; Morens and Fauci 2020; Chakrabarty 2021a). These threats are caused not only by a wide variety of pathogens, representing different taxa, source hosts, modes of transmission, and clinical courses as well as global webs of travel and trade that help once local spillovers become new pandemics. The reduction and disruption of tightly entangled and complex ecologies have also increasingly spurred the emergence and evolution of new pathogenic strains. In the decade prior to the COVID-19 outbreak, many scientists and science journalists wrote about and cautioned against what they often called 'a new pandemic age' (Wolfe 2011; Quammen 2012). However, it only became common knowledge and a widely recognized threat after the last pandemic. Thus, it is important not only to look back at the first year of the COVID-19 pandemic when people struggled to come to terms with a supposedly new situation of living with a viral contagion that might stay with us far longer than previously thought but also to confront their reactions with scientific narratives, scripts, and metaphors to which they could resort to make sense of what they were going through. In what follows, while looking at how material causes of contagious diseases were apprehended and figuratively/ideologically interpreted in the light of the last pandemic, I try to tentatively solve the paradox of this one-of-a-kind experience that apparently quickly lost its transformative potential and faded away without leaving any visible trace.

Looking Back at the Last Outbreak

Quite a few books about viral contagion were completed or going to press when the COVID-19 pandemic struck in early 2020. As it seems, at that moment most authors were already aware of the fact that we need a lot of time to clearly see how the pandemic recast our apprehension of its immediate past, that of the first decades of the twenty-first century. Nevertheless, they had no doubt that it already was–and might forever remain–the defining experience of our time. Moreover, the experience in many ways would determine perspectives from which to look not only at similar historical plagues and their entanglements but also at historiography and historicity as such. For instance, Amitav Ghosh's book *The Nutmeg's Curse* (2021) demonstrates how the experience has already influenced approaches to broader colonial and decolonial processes. Hence, the author's decolonial undertaking, which begins on the Banda Islands in 1621, unfolds alongside his account of how COVID-19 progresses in New York City, and each narrative strand sheds light on the other. Similarly mindful of this latest contagion as a common experience, many books published in the early stages of the COVID-19 pandemic start with a preface to depict the still lingering shock and resulting lack of any comprehensive picture of the ongoing disaster, which at its beginning froze almost the whole world in place. As today's reading shows, that shock seemed to affect especially those authors who spent many years studying similar epidemiologic events and their reverberations on various fields and scales.

A case in point is the preface to Anjuli Fatima Raza Kolb's *Epidemic Empire* (2021), written when the author was quarantined. In her book, Kolb engages a rich and diverse archive of literary, medical, administrative, and military documents to decipher imperial disease poetics that then became a productive method in fighting terror and terrorism, in particular after 9/11. In the preface, "Politics and Scholarship in a Time of Pandemic," she capitalizes on her findings in order to draw the reader's attention to the newly evidenced fact that "[t]he effects of twenty-first-century Islamophobia have now reached far beyond the West and are deeply embedded in the global response to the COVID-19 pandemic" (Kolb 2021, xiii). However, based on her research, Kolb points to these recent proofs of the pervasive force of epidemic imaginary in the hope that "something in this book helps them [young researchers and students] to make sense of the 2020 pandemic not as an isolated disaster, but as a turning point in the history we want to write and the world in which we can live" (2021, xv). I do not read these words as an encouragement to the reader to focus on etiologies of illnesses in order to make sense of the recent pandemic in the context of similar historic global plagues and diseases, understood mainly as biomedical phenomena; rather, Kolb shows how epidemiology's discursive power politically maps bodies, redefines spaces and behaviors. In other words, she asks us to watch out for how the 'normal,' which we so much want to come back to–the normal instantiated

also in the (re)presentations of COVID-19 which still keep cropping up–will influence our possible future.

I have singled out Kolb's preface because I am not entirely convinced by the argument that various global and local responses to the COVID-19 pandemic have brought about entirely new, emerging phenomena, behaviors, and practices, and initiated yet-unknown multi-pronged processes, which are still unfolding and waiting to be made sense of. I would rather argue that the pandemic has made salient these specific aspects of global life under medicalized regimes and their political consequences that have been noticed since at least the HIV/AIDS pandemic, often analyzed as an unprecedented conflation of disease, bodies, and a wide range of media; a conflation still not fully comprehended (Patton 2002; Wald 2008; Ghosh 2023). That is why in this chapter, I mimic Kolb's gesture by using Lawrence Wright's report *The Plague Year* (2021) about the first year of COVID-19 in the United States as a perspective through which to read recent critical theories of contagious diseases in a relatively new light. To this end, I have chosen three separate, but closely intertwined, thematic approaches that help identify emerging concepts of contagious diseases and may be used as an appropriate method to understand "a turning point in the history we want to write and the world in which we can live" (2021, xv), as Kolb would have it.

By way of introduction, I address the futurity of pandemics and take a closer look at what constitutes the present space of both possible future contagion developments and pre-emptive strategies. What epidemiologists see today and try to prevent as a future development differs noticeably from what twentieth-century epidemiology and Priscilla Wald (2008) have rightly named 'outbreak narratives.' Then, I show how select authors seek to entangle the generic conventions of both epidemiological discourses and figurations/metaphors of the past in order to highlight historically changing relations between immunology and ideology in the formation of communal identities. This not only helps me address emerging approaches to pandemics as part and parcel of increasingly visible anthropogenic ecological changes and challenges, but it also sets the scene for the last section of this chapter, which focuses on shifting images of viruses and their new materializations. They demonstrate not only that how we see and apprehend viruses depends on larger cultural discourses and imaginaries. Their being products of a wide range of techno-scientific mediations should as well be taken into consideration while approaching pandemics, their materializations and interpretations. In other words, new approaches to viruses that emerged in the wake of the COVID-19 pandemic may be justly read as a visible sign of ongoing changes at the very core of Western knowledge system, still defined as objective and universal.

Performing Future Pandemics

The Plague Year grew out of an idea for a major article on the pandemic for the *New Yorker*–for which Lawrence Wright has been writing for many years. Considering that COVID-19 pandemic has affected almost every part of US society, the author contacted and interviewed more than a hundred people representing different sectors of the population to provide an overview that helped him reconstruct how the pandemic started and unfolded week by week. He not only drew on many sources but also tried to provide contrastive narratives about how people coped with the deepening crisis. At one moment, events from Wright's life become closely entangled with his efforts at reconstructing the first year of the outbreak in the US. Incidentally, in April 2020, *The End of October*, his novel about a speculative pandemic that causes a global catastrophe, came out at the peak of the first COVID-19 wave. Since Wright's pandemic unfolds in similar ways as the real one did, many readers and critics tended to believe that the author had somehow and before anyone else foreseen what would happen in Wuhan and afterwards. In response, Wright undercuts these beliefs and explains in *The Plague Year*: "The reason the novel parallels reality is that I read the playbooks, I watched the tabletop exercises, I talked to the experts. […] I just lifted the expert reports and turned them into fiction" (2021, 155). I am not so much interested in whether Wright rightly accuses the Trump administration of not trusting its own public health officials and focusing on controlling the narrative instead. What is much more important for me is a yawning gap between the playbooks and tabletop exercises, mentioned by the author when commenting upon his novel, and the administration's main narrative. As it seems, there are two different medial and generic approaches: firstly, outbreak narratives, based predominantly on the investigation of written epidemiological documents of all sorts about important past infections; and secondly, epidemic modeling in-silico, together with simulation exercises, two so-called anticipation techniques that allow to immerge in the 'reality' of future disasters in order to mitigate their catastrophic effects (Caduff 2015; Keck and Lachenal 2019).

In her seminal book *Contagious* (2008), Wald introduces and defines the outbreak narrative as an evolving story of disease emergence. The story has a formulaic plot that consists of three basic parts: 1) identification of an emerging infection and its patterns; 2) discussion of the global networks through which it travels; and 3) an account of how the epidemiological work unfolded and ended with the confinement of the disease. As the author insists, it is crucial to understand both the appeal and persistence of this narrative in twentieth-century epidemiology because it has the power to systematize "individuals, groups, populations, locales (regional and global), behaviors and lifestyles" (Wald 2008, 3). Thus she reads the outbreak narrative as an important biopolitical technology that is a function of social interaction as well as a form of regimented social behavior to reinforce the governing authority.

For this reason, drawing on a host of examples of literary and cinematic works, Wald demonstrates how outbreak narratives shaped various accounts of the twentieth-century contagions, up to SARS in 2003. Significantly for my argument, she stresses that "epistemologists build on precedents from previous outbreaks that they hope will make future outbreaks comprehensible, and ultimately preventable, or at least containable" (Wald 2008, 19). Crucially, the role of epistemologists was not limited to reading and writing the epidemic as a story of detection with predictive value; their story also intentionally related to a recognizable literary genre: the classic detective novel. According to Wald, this is best exemplified in the mid-century popular media coverage of the Epidemiological Investigation Service (EIS), then newly created at the Centers for Disease Control and Prevention (CDC). Not only were the EIS officers called 'disease detectives' in the press, but also brief accounts of mostly mysterious outbreaks they succeeded in solving appeared with titles such as "The Case of the Camp Sewage" and "The Case of the Carrot Salad," which purportedly evoked Arthur Conan Doyle's famous detective stories (Wald 2008, 23–24). Just like Sherlock Holmes, the epistemologists of the second half of the last century read and wrote about contagious diseases in a deductive and exploratory manner to make scientific and social sense of unexpected events. However, unlike the outbreak narrative, epidemic simulation needs to be acted out rather than narrated or described. This visibly shifts the focus from the discursive to the performative, from the written narrative to the embodied culture of the last few decades, in which experiencing becomes a privileged way of knowing. It does not even change when simulation is modeled on fictional narratives as was, for instance, the case of the simulation exercise of the 1998 Ebola outbreak in the US, based on Richard Preston's thriller *The Cobra Event* (itself half-fictional, half-factual). After all, simulation addresses the whole human sensorium in a far more complex way than a written narrative.

The question of how simulations of epidemics that mostly draw on fictional scenarios have transformed the concept of contagious disease, its outbreak, common patterns, and efficient ways of confinement has been recently formulated by Frédéric Keck and Guillaume Lachenal in their chapter "Simulations of Epidemics" (2019). Anticipation techniques, transferred to civil sectors after the end of the Cold War, have shifted rationalities of risk management from prevention to preparedness. As Keck and Lachenal argue, the results of this shift seem to grow in importance: "[W]e believe that simulation of epidemics will proliferate as techniques of neo-liberal government in the years to come" (2019, 26). What is even more significant here, to successfully immerge in a world transformed by a contagious disaster in order to mitigate its catastrophic effects, the techniques have to stimulate the participants' imagination in such a way as to let them believe in the 'reality' of the simulated situation. Otherwise, the participants, in most cases decision makers at different organizational levels, will not be able to rightly and quickly enough assess the critical vulnerabilities of a mock-up social life and the availability of its technological infrastruc-

tures. In other words, the simulations have to anticipate an uncertain future as the past–as something that has already happened. This does not, however, mean that simulations as pre-emptive strategies are any better attuned to unexpected dimensions of responses to an epidemiological situation than outbreak narratives based on the memory of past epidemics. They also have their drawbacks.

When looking at the anthropology of epidemics in the context of the complexity of networks of their livelihoods, Hannah Brown rightly points out that "disease control often centres on activities that aim to simplify different forms of complexity" (2019, 123). It is not only that–as Keck and Lachenal emphasize–"the aim of simulations is to reduce the uncertainty by producing in the individual body and in the collective team standardised habits"; simulations have also "become a pre-packaged, standardised, normative exercise, with measurable and reportable outputs and indicators" (2019, 34). Therefore, like outbreak narratives, they often dissuade us from examining the framework itself, of looking closely at the political circumstances and cultural fears that make these narratives and simulations seem so urgent and compelling. For, as Diana Taylor emphasizes in her *Performance*, "[o]ne can only prepare for things one already imagines, so scenarios tend to reinforce certain ways of envisioning conflict and resolution" (2016, 140). In other words, in the case of both outbreak narratives premised on past communicative diseases and in simulations anticipating the coming contagion the way of framing a given epidemic needs to be questioned on a metalevel so that it can be clearly seen with a shifting set of attendant ideas, addressed fears, and associated practices.

Framing Past Pandemics

For a long time, plagues have been regarded as not only shared experiences on multiple levels but also great equalizers. For instance, seeking similarities between the coronavirus pandemic and historical outbreaks, the Nobel Prize-winning Turkish novelist Orhan Pamuk observed in his essay "What the Great Pandemics Novels Teach Us" (2020): "The terror we are feeling […] excludes imagination and individuality, and it reveals how unexpectedly similar our fragile lives and shared humanity really are." However, the further development of the COVID-19 pandemic clearly undermined such a belief. In *The Plague Year*, Wright points out, for example, that the US experienced widely different pandemics in 2020. As he explains, each generation had its own pandemic thereat. Although the general fatality rate was two percent, for people aged eighteen and under it was far less than this, while among those over seventy, it reached almost 18 percent (Wright 2021, 128). In addition, Wright includes race as a significant factor in those estimates: "For every 10,000 Americans, there were 38 coronavirus cases; however, for whites, the number was 23; for Blacks, it was 62; and for Hispanics, it was 73" (2021, 136). Yet he keeps track

of these statistics, fully aware that there were–and still are–many other divisions, also those that did not warrant recording. That is why he also points to the disparity in the medical treatment received by Americans depending on their race and influence. It is a well-documented fact that minorities suffer from comorbidities as they live in worse health conditions than the white population. However, what needs to be taken into account are not only broadly understood health conditions and public health infrastructure; Wright also mentions other statistics: only one in five African Americans and one in six Hispanics could work remotely. It means that they were more exposed to the coronavirus at their workplace and on their way to and from it than those working from home. Moreover, in his report Wright mentions, for instance, George Floyd's murder and the events in Tulsa in June 2020 and a century earlier, considering these to be of equal significance for the eponymous plague year. That is why, as I posit, *The Plague Year* may be read as symptomatic of a much broader turn in the critical studies that at least since the beginning of the new century have been merging analytical methods of literary criticism and visual or media studies with epidemiological approaches. Or, rather, they have increasingly demonstrated the inadequacy of the narrowly understood epidemiology in coping with new viruses that emerge partly because of the changing relations between humans and their environment. Since at least the HIV/AIDS epidemic, it has become more and more visible that contagious diseases are not great equalizers. Neither can they be regarded as forces that act independently of human agency. That is why two decades ago, when summing up her research on global HIV/AIDS policies in the last chapter of her *Globalizing AIDS*, Cindy Patton coined the term "a dying epidemiology" (2002, 114). I am going to support her claim by taking a closer look at two more recent studies of epidemic and epidemiological discourses that refer back to the times before the birth of epidemiology.

Cristobal Silva defined the aim of writing his *Miraculous Plagues* in the following way: "[T]o bring the analytical methods of literary criticism and epidemiology to bear on one another" (2011, 3). However, he starts with a close reading of John Snow's report of the cholera outbreak in London in 1854. Although it was written before the official birth of epidemiology and its narrative conventions, Silva reads it as a demonstration of a similar intention to pinpoint the geographical source of illness, investigate the movement and patterns of pathogens, and adequately map individual and social bodies and their behaviors. This means that he deliberately does not focus on a biological history of epidemics but rather undertakes a broader inquiry into the way epidemiology shapes communities and their social and cultural practices: "A study of epidemics would highlight the historical effects of disease on specific populations, while a study of epidemiology is concerned with how those effects are narrated as a means of politicizing behaviors, and reconceptualizing community" (Silva 2011, 12). Clearly, not only in the case of Snow's report, Silva is more interested in narrative conventions than in disease as such, its transmission and means of containment.

Mindful of that, Silva offers what he calls a productive concept of anachronism that "provides for a fruitful analysis of the colonial era precisely because it defamiliarizes narrative histories that segregate medicine, theology, and law into their own specialized modern disciplines" (2011, 12). Moreover, after being defamiliarized from its modern medical and statistical functions, such an analysis could not only be easily approached as a narrative but also as a set of written documents of a deeply local and embodied historical experience of illness. This is one of the reasons why the author of *Miraculous Plagues* firmly opposes the 'virgin soil thesis,' premised on what has been recognized as biological differences, to a stark immunological distinction between settlers and indigenous bodies during the epidemics among Native Americans in 1616–19. He compares these epidemics with the 1721 smallpox outbreak in Boston, which mainly affected the white population. This also proves how wrong John Winthrop was in 1629 to identify earlier plagues as "miraculous," sent by God to "vacate" New England for Puritan migration. Silva deliberately puts Winthrop's phrase in the title of his study, for it clearly expresses his intention "to move away from metaphor, or to consider how metaphors and representations shift over as a reflection of biological processes" (Silva 2011, 15). What Silva calls "a reflection," Kolb, while referring to *Miraculous Plagues* in her *Epidemic Empire*, defines more rightly as a form of "emplotting" (2021, 19). Plots, narratives, and different genres of epidemiologic writing not only offer a persuasive set of conventions to represent and interpret epidemics, they also create pathogenic images and imaginaries in which a crucial role belongs to the inhuman as an inevitable force of destruction–as God's, evil's, or nature's violence. This specific disease poetics has often become a productive metaphor for defining and combating political enemies. Historically changing forms of 'emplotting' make these metaphors emphatically material. To support her thesis, Kolb refers to Heather Schell, who called these forms of emplotting "an extremely powerful tool for creating master narratives about the world" (qtd. in Kolb 2021, 19). This is another proof that, indeed, more often than not, the Global North interprets the past and imagines a future through the lens of epidemics.

In her study of the complex relationship between colonialism, contagion, and terror in the last two centuries, Kolb sees the insurgent violence of epidemics not only as the ontological foundation of the eponymous empire. Already in the "Preface," she clearly states the main aim of her undertaking–to "put a stop to the deployment of disease metaphors and the racial and economic injustices they proliferate" (Kolb 2021, xv). To demonstrate how the mobile metaphorical language has assisted in the critical projection of global space as the body biopolitics, Kolb refers to W. J. T. Mitchell's call to "a reframing of terrorism as a public health crisis" in the aftermath of 9/11 (qtd. in Kolb 2021, 16). Although in *Epidemic Empire*, the author undertakes historical research in the context of the most recent events–9/11 and COVID-19–she nevertheless employs Susan Sontag's well-known understanding of illness as a metaphor. Explicitly writing about this connection, Kolb emphasizes,

"Sontag's position on the inevitability and immutability of an ordering of society based on an analogy to the human body is a crucial feature of how I understand the process and outcomes of epidemic figuration" (2021, 17). I can only agree that in *AIDS and Its Metaphors* (1989), Sontag offered a more flexibly operating definition of metaphor than the Aristotelian concept which she drew on in her *Illness as Metaphor* (1978). Kolb's study demonstrates also that this definition remains fully operative in reading historical discourses and their written manifestations, both fictional and factual. However, it could be seriously doubted whether Sontag fully grasped the novelty of the HIV/AIDS epidemic in her 1989 essay, for the epidemic was recognized not only as new, but even of a new kind.

In her *Globalizing AIDS*, Cindy Patton insightfully points at this paradigmatic change: "For individual participants in both local and global political processes, AIDS activism has been an important and world-changing experience of questioning and reshaping how body-knowledge is given to, reinterpreted within, and applied to read disease processes" (2002, xvi–xvii). This means that not only biological data interpretation and representation but also biological processes as such have come to be seen as a form of 'emplotting.' Suffice it to recall David Crimp's claim that "AIDS does not exist apart from the practices that conceptualize it, represent it, and respond to it. We know AIDS only in and through those practices" (qtd. in Wald 2008, 215). The practices Crimp refers to materialize the disease itself. They determine how it is represented, or made into a metaphor, materialized in and by the epidemiological narrative. The very aim of AIDS activism has been to make the medical world accept HIV symptoms as a disease syndrome, to assign a name to this syndrome in order to initiate a search for a pathogenic cause outside the sick bodies. This has not only initiated a paradigmatic change in how epidemics are approached today; it has also brought about an increasing 'denaturalization' of epidemiological discourse through the uncovering of the medicalized framework on which it is premised. Patton sums it up as follows: "The methodical nature of Western medicine and the degree to which modern society is medicalized means that without the procedures and sanctions of official medicine, expressions of bodily experiences and complaints are not considered real, sometimes not even by the sufferer" (2002, xxiii). A new kind of epidemic, instantiated by HIV/AIDS in the 1980s, has put into question both the outbreak narrative and the very concept of epidemiology. The subsequent viral epidemics, mostly of zoonotic nature, have, among others, resulted in a new understanding of relations between humans and their environment, which could be seen as part and parcel of much broader anthropogenic environmental alterations.

Alter-Pandemic

Wright's *Plague Year* demonstrates that the US was not able to contain the disease through conventional public health measures not only because of the federal government's 'no-plan plan,' bureaucratic inertia, and scientific incompetence; their inefficiency was also caused by the very nature of the contagion. As it spread in large part by asymptomatic transmission or by patients with mild symptoms, exactly like the common cold, COVID-19 made ineffective the already proven epidemiological methods of identifying superspreaders, contact tracing, isolation, and quarantine. Although Wright undoubtedly sees the need for a novel approach to the challenges posed by the new disease, he stops short of drawing far-reaching conclusions. Admittedly, in the "Epilogue," he juxtaposes the United States' reaction to a possible foreign adversary invasion with the COVID-19 contagion, only to conclude that "our invader is not a human adversary; it is nature that we struggle against, and in the face of this conflict there is a curious passivity" (Wright 2021, 269). He blames decades of cutbacks in the US healthcare system rather than centuries of conceptualizing contagious diseases as a part of nature entirely exempt from human agency. In this respect, his novel *The End of October* depicts a different situation.

Wright's fictional virus is far deadlier than the real one. Although it causes a rather typical outbreak in Indonesian Kongoli, the author refers to the tropical imaginary only in order to better prepare the reader for the final surprise–Kongoli turns out to be one of those archaic viruses that had been frozen in Siberian tundra and brought back to life by global warming. Dr. Henry Parsons from the CDC, the protagonist of the novel, goes there with a SEAL team, while the world barely survives on the edge of collapse, immersed in a total bio- and cyberwar. Parsons is fully aware that his search for a source of an almost forgotten Kongoli pandemic has no pragmatic reasons. That is why he considers himself more of an historian than epidemiologist. When he and the SEALs find a contaminated mammoth's body, ripped apart by polar bears, one of the soldiers asks, "Well, doc, what are we going to tell history?" "We're going to say that we did this to ourselves" (Wright 2020, 376). Clearly, here the threat no longer comes from nature, especially in its primordial, tropical forms as it did in typical outbreak narratives. In the final section of the novel, the fictional pandemic turns out to be a dark side of modernization and technological progress. Therefore, it ceases to belong to the forces that appear to act independently of human agency. Human agency in global catastrophe, which the pandemic in Kongoli only started, becomes even more visible in the bio- and cyber-wars that follow, most probably wiping out a large part of the human population in *The End of October*.

However, Wright's new anthropogenic perspective on epidemic may be found not only in fiction. For instance, in *Dead Epidemiologists* (2020), a collection of articles written during the last outbreak, Rob Wallace, an evolutionary biologist and public health phylogeographer, focuses on capital-led agricultural production and

trade as major reasons for the COVID-19 pandemic. He convincingly demonstrates the damaging effects of turning living organisms and entire production chains into commodities within more and more capitalized landscapes. By replacing ecologies that are more natural, today's agriculture promotes invasive species and alternate xenospecific relationships, which, in turn, disrupt long-term ecosystemic function. Therefore, Wallace recommends that "we err on the side of viewing disease causality and intervention beyond the biomedical or even ecohealth object and out into the field of eco-social relationships" (2020, 26). Despite his narrow focus on agriculture, Wallace's recommendation seems to be of importance in our time of epidemics cropping up in the wake of detrimental global environmental damage of anthropogenic origin, interwoven with other economic and social crises. In other words, in the age of the Anthropocene, epidemics have become one of the effects of climate change, and it can no longer be delegated to geographically, temporary, and economically distant colonial countries.

In his aforementioned *The Nutmeg's Curse*, Amitav Ghosh also writes about weaponization of the environment as both the core and main effect of colonial terraforming in the Americas. He recognizes the right to rename and terraform, "to turn territories that were perceived to be wastelands into terrain that fitted a European conception of productive land" (Ghosh 2021, 71), as an essential part of settler identity. These 'terraformed' locations have already been–and will be more intensively in the future–affected by massive biological and ecological disruptions, epidemics among others. As most of them will break out in wealthy countries, Ghosh strongly opposes the widespread belief that it is the poor countries that will suffer the most because of the planetary crisis. In his view, it is even more likely that the wealthy will actually be the first to feel adverse effects of climate change. He supports his argument with reference to the direction taken by the COVID-19 pandemic. Reminding that before 2020, eminent experts placed the US and the UK at the top of the list of "Countries Best Prepared to Deal with the Pandemic," Ghosh convincingly demonstrates that China and a cluster of African countries relegated to the bottom of this list fared much better. He further supports his claim by pointing to Cuba, which "at the peak of the crisis, […] even sent a team of doctors to Italy to buttress that country's foundering medical system" (Ghosh 2021, 131). What is important here is that Ghosh also subverts the concept of futurity on which most of outbreak modeling and pandemic simulation is premised.

Reflecting on the complex connections between settler colonialism and the planetary crisis in *The Nutmeg's Curse*, Ghosh notices, "[i]t is as if climate change were goading the terrain to shrug off the forms imposed on it over the last centuries" (2021, 152). However, he goes a step further than those who–like Isabelle Stengers in her book *In Catastrophic Times* (2015)–speak about Earth striking back, for he demonstrates that usually this shrugging-off takes very specific, local forms. This locality is a significant aspect of the emergent non-medicalized perspectives on epidemics.

This is also one of the main reasons why the analytics of epidemics have recently also been applied to non-infectious diseases or even climate phenomena. The best example of this is Dipesh Chakrabarty's description of diabetes as a kind of epidemic in his recent book *Climate of History in a Planetary Age* (2021). While identifying a shock of falling into deep history–that is, a recognition of the otherness of the planet and its large-scale spatial and temporal processes–Chakrabarty draws an analogy with an experience of a person from the Indian subcontinent who has been diagnosed with diabetes. As he argues, the experience opens up entirely new, impersonal, long-term pasts: "A subcontinental person will most likely be told that they have a genetic propensity toward diabetes because they have been rice eaters (for at least a few thousand years now)" (2021b, 15). Because of this ecological conditioning, as he explains, diabetes has acquired epidemic proportions on the Indian subcontinent. The same conditioning accounts for the fact that contagious and other diseases are no longer seen as independent of human agency today. They are similarly acknowledged to be generated by a local multifactorial basis that involves intrinsic interactions between human biology and more-than-human environmental factors.

In numerous recent studies, the emergent non-medicalized perspective on epidemics has been increasingly applied as a method to analyze both the epidemiologic imaginary and epidemics as metaphor/mediation. In all of them, one and the same undertaking is visible–to go beyond the biopolitical frame that birthed epidemiology in order to seek alternative and less anthropocentric conceptualizations of epidemics. The same could be said about the metaphoric uses of the outbreak narratives typical of the last century. It is also evident in the case of non-infectious diseases treated as epidemics that I have referred to and the recent understanding of epidemics as an environmental factor. In her book *Contagious*, Wald emphasizes that the circulation of microbes has materialized the transmission of ideas, beliefs, attitudes, behaviors, etc. Before that, the medical usage of the term 'contagion' had been "no more and no less metaphorical than its ideational counterpart. The circulation of disease and the circulation of ideas were material and experiential, even if not visible. Both displayed the power and danger of bodies in contact and demonstrated the simultaneous fragility and tenacity of social bonds" (Wald 2008, 12–13). Then the medicalized communicable disease became 'the real' against which other phenomena were measured, so as to make stigmatizing metaphors politically useful, as Sontag and Kolb demonstrate. That is why in the last part of this chapter I take a closer look at viruses that have been the cause of epidemics in this century. Their substantial and figurative potential may open up new perspectives on ongoing and futures paradigmatic changes within the Western knowledge system.

Viruses and Their Metaphors/Mediations

In many respects, viruses present a borderline phenomenon that subverts basic categories of Western sciences premised on binary thinking. Until recently conceptualized and researched mainly as a threat to humankind and agents of mortality, viruses are increasingly recognized as agents of life and life's diversity. They not only have proved useful in gene therapy, instrumental in replacing a damaged gene in human tissue with a working one, but they could also be regarded as a driving force of evolution. This is what Dr. Henry Parsons hints at in Wright's *End of October*: "The legacy of ancient infections might be found in as much as 8 percent of the human genome, including the genes that controlled memory formation, the immune system, and cognitive development" (2020, 47). In other words, viruses are both around us and in us–they define us as human beings on more than just biological level. They are the trouble we have to live with, as Donna Haraway would have it (2016). However, contrary to the latest findings of viral relational agency and pluripotency, we still imagine viruses as self-contained particulars with clear boundaries and stable inherent properties along the lines of a neoliberal agenda, according to which genetic information could become a patented and traded commodity. As Caitlin Berrigan rightly points out, "[V]iruses, fathomable only by means of scaffolds of metaphors, are evacuated of their material relations and come to operate as the metaphor itself" (2022). Therefore, it is not surprising that theorists and politicians alike have often deployed the pathologized virus as a figure that stands in for foreign agents or invaders.

The well-known example of how a metaphorized virus might and has been politically deployed is Elizabeth Povinelli's set of three figures of geontopower in her *Geontologies* (2016), one of which–alongside the Desert and The Animist–is the Virus, the main token of which is the Terrorist. The author defines both the Virus and the Terrorist as ultimate threats to the capitalist system but demonstrates that the two figures at the same time serve as considerable sources of profit. Significantly, Povinelli returned to her figure of the Virus just after the second wave of the coronavirus pandemic. In "The Virus: Figure and Infrastructure" (2020), she shows how the Virus-as-Terrorist effectively blocks a vital understanding of the current pandemic as yet another form of structural violence, a manifestation of the ancestral catastrophes of colonialism and slavery. Therefore, the only way to see that the current pandemic is yet another form of toxicity that colonialism has seeded, bringing along also the Anthropocene, is to differentiate the actual virus from the Virus. However, Povinelli focuses on the difference between the real pathogen and the figure of Virus in the recent cultural and political discourses. That is why she does not even mention how deeply the ordering principles, genres, and narrative devices of medical epistemologies have always-already informed our cultural imagery. After all, the rhetoric of scientific visualization and explanation is also dependent

on a historically informed and distinct cultural tropology. This has recently been demonstrated by Hannah Landecker, a sociologist from the University of California working at the intersection of anthropology and history of biotechnology and life science.

In her article "Viruses Are More Like Cone Snails" (2022), Landecker looks closely at how microbial studies have domesticated viral agencies and actions to the human scale. One of several telling examples to which she refers is the figuration of the virus as a hijacker of the early twentieth century. The figuration emerged out of cultural mobility between popular imagination and the way viruses were materialized in scientific discourses of newly founded epidemiology and its policies. Landecker points out, "As with many apparently innocuous explanatory tropes, this figure of the viral hijacker perhaps hides as much as it reveals" (2022). Indeed, because it does not possess its own metabolism, the virus was figured as a foreign agent. Premised on that, infection was conceptualized as a forcible take-over of the "cellular machinery" in a kind of illicit raiding operation (Landecker 2022). In this frame of reference, we may also reasonably situate Povinelli's figure of the Virus-as-Terrorist as a successor of this older figuration. This time, however, it is a medical understanding of viral contagious agency that has infected cultural and political discourses of late liberalism, underpinning their racist, neocolonial policies that Povinelli lays bare in her book *Geontologies*. However, what Landecker (2022) calls "domestication" denotes not only metaphorization of viral agencies and actions but also the conceptualization of viruses. A case in point is the modern definition of the virus, understood as "a DNA or RNA core contained in a protective package transmittable across time and space between and within susceptible hosts" (Landecker 2022). It was introduced in the early 1930s, roughly at the time of the expansion of international networks and modes of shipping people, valuables, and factory-produced commodities around the globe. At that time, the increasingly expanding international networks of trade and communication did not only facilitate transmission and global spread of contagious diseases, they also decisively influenced how viruses were visualized and materialized in both cultural and scientific/medical imaginaries.

Mindful of the historical taproots of both of these seemingly innocuous explanatory tropes, Landecker also offers a kind of speculative exercise, inviting readers to imagine viruses rather in terms of predatory sea snails than hijackers, foreign agents/terrorists, or protective packages. For instance, one species of predatory sea snails, *Conus geographus*, uses an insulin overdose to disorient and disable its fish prey, releasing the toxin into water. Importantly, because the toxic overdose mimics fish insulin, it does not affect the snail itself. A similar kind of a predatory metabolic convergence, in the mid-1960s called 'molecular mimicry,' allows some viruses to mimic their host's cell cycle and metabolic processes. In other words, this speculative exercise makes clear that not all viruses are pathogenic agents that kill their host cell to replicate. Some replicate and continue their existence within their host's

cell as symbionts, provided they know how to mimic its metabolism, to become its protein kin. Such viruses–a horde much bigger than the one already identified as dangerous for humans–have been marginalized, or even made invisible when the virus was conceptualized as hijacker or terrorist. Therefore, it indeed matters "what thoughts think thoughts, what descriptions describe descriptions," to use Haraway's phrasing (2016, 12).

Both epidemiological and cultural figurations of viruses have domesticated viral agencies and actions, and in so doing have also decisively influenced how we apprehend this very differentiated group as deadly pathogens. Researching historical processes of the domestication, Landecker focuses mostly on discursive metaphors. However, as she points out, scientific-technological materializations have played just as important role as a subject of microbiological experiments and studies. This has recently been demonstrated by Bishnupriya Ghosh in her monograph *Virus Touch* (2023). Importantly, and contrary to Povinelli and Landecker who dwell on viral tropology in different kinds of discourses, Ghosh focuses on the scientific-technological mediation of 'life.' By materializing pathogens, the mediation targets scientific/medical intervention into dynamic, fluctuating, more-than-human assemblies to tell apart the host from the attacker. In other words, how we see and understand viruses and witness their effects depends largely on how epidemic media enact epistemic cuts in those assemblies to inscribe, store, and transmit their relations as stable and, therefore, knowable and manageable configurations. Although the last contagious disease outbreaks have already been reconfigured as unfolding ecological disturbances, epidemic media still institute infection as fluctuating relations between two discrete entities–viruses and their hosts. It is out of these relations, of intra-active biotechnical performances that isolated pathogens appear as exterminable targets.

That is why the author of *The Virus Touch* formulates a rhetorical question about a visibly deepening gap between laboratory findings and an already outdated common knowledge about viruses. How is it possible, Ghosh asks rhetorically, that as we face species extinction in a near future of the Anthropocene, we would rather have microbes as infectious germs exterminated–exterminated despite the recent knowledge of our ever-swarming, multispecies biobodies. Mindful of this paradox, Ghosh looks closely at different forms of media across the current epistemic setting–from laboratories and clinics to forests, from scientific theories and clinical instructions to public health policies. In this way, she convincingly demonstrates "how epidemic media actualize multispecies relations as to measure, assess, and locate harms" (Ghosh 2023, 2). How these multispecies relations are actualized is merely an outcome of both epidemiological and socio-political needs and applied technologies, for, as Ghosh explains, "inquiries into making/doing/enacting epidemic media habitually disclose the entangled materiality of living processes and relations" (2023, 200). Premised on her insights, Ghosh insists on another kind of knowledge, which

we need to activate. Otherwise, we will hardly be able to cope in the current situation of multipronged crises. She calls this type of knowledge "a sensuous apprehension of multispecies entanglements that implode all organismic boundaries" (2023, 3). It should focus on how different human, animal, plant, and machinic agencies other than viruses have been materialized through similar processes of mediation, instituted and rendered in their objectivized and naturalized differential relations as epistemic objects (and facts).

It is for a reason that Ghosh has chosen the time-space of HIV/AIDS and COVID-19 outbreaks, which she calls the current epidemic episteme, to reflect not only on viruses as products of scientific-technological mediation but also on a much broader topic of multispecies entanglements and a much-needed recalibration of multispecies politics. Her book, like many others I have referred to in this chapter, demonstrates that the extreme situation of a global viral pandemic compels more urgently than before changes, turns, and shifts in our knowledge system. Epidemiological narratives and metaphors/mediations are so tightly entangled in much larger cultural imaginaries that each change in how we conceptualize contagion and its causes entails consequences for how various spheres of life are envisioned and apprehended. This has been demonstrated, for instance, by the latest recasting of epidemic as a manifestation of an unfolding ecological disturbance, a further 'denaturalization' of epidemiological discourses, and novel materializations of viruses as both quickly mutating swarms and a vital source of life on Earth, as I have pointed out. This perfectly illustrates that we face ongoing deeply paradigmatic changes premised on the one-of-a-kind experience of the COVID-19 pandemic—even if those changes are not so radical, super-visible, and hyper-present as many people hoped during the last contagion.

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