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Article (Published Version)

Elbe, Stefan (2022) Who owns a deadly virus? Viral sovereignty, global health emergencies, and the matrix of the international. *International Political Sociology*. pp. 1-18. ISSN 1749-5679

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Who Owns a Deadly Virus? Viral Sovereignty, Global Health Emergencies, and the Matrix of the International

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This article investigates the global inequities imbricated in the international response to lethal viruses. It does so by developing a virographic approach to the study of international relations that builds upon the matrix methods pioneered within black feminist thought for unraveling particularly complex forms of interlocking oppression. Performing such a virography of international relations exposes the multifaceted economic, racial, and epistemological disparities embedded in the international management of emergent viruses. It further demonstrates how those multiple axes of international inequality intersect during viral outbreaks to form a deadly matrix of global subjugation—*vital abandonment*—that repeatedly deprives the world’s majority population from equitable access to life-saving biomedical interventions. It finally also reveals how diplomatic assertions of viral sovereignty, that is, claiming legal ownership of pathogens, are directly enrolling lethal viruses now in the political strategies of countries seeking to resist their vital abandonment. Overall, a virography thus contributes to the broader study of international relations by foregrounding the global salience of epidemiological injustices and positionalities, by capturing the actant power of lethal viruses in contemporary world politics, and by intimating that the “international” can itself be studied as a continually reconfiguring matrix of interlocking and historically conditioned global inequities.

Cet article étudie les iniquités mondiales imbriquées dans la réponse internationale aux virus mortels. Il le fait en développant une approche virographique de l’étude des relations internationales qui repose sur les méthodes des matrices lancées dans la pensée féministe noire pour détricoter les formes particulièrement complexes d’oppression imbriquée. Une telle virographie des relations internationales commence à révéler les disparités économiques, raciales et épistémologiques multifacettes qui sont inhérentes à la gestion internationale des virus émergents. Elle montre en outre comment ces multiples axes d’inégalité internationale s’entrecroisent lors des épidémies virales pour former une matrice mortelle d’assujettissement mondial - d’abandon mortel - qui prive de manière répétée la population majoritaire du monde d’un accès équitable aux interventions biomédicales salvatrices. Elle retrace enfin la manière dont les affirmations diplomatiques de souveraineté virale, c’est-à-dire la revendication de propriété légale d’agents pathogènes, inscrivent également désormais directement les virus mortels dans les stratégies politiques des pays qui cherchent à résister activement à leur abandon mortel. L’exécution d’une telle virographie contribue à l’étude globale des relations internationales en mettant au premier plan la saillance mondiale

des injustices et positionnalités épidémiologiques, en capturant le pouvoir d'action des virus mortels dans les politiques mondiales contemporaines et en laissant entendre que « l'international » peut lui-même être étudié en tant que matrice en constante reconfiguration d'iniquités mondiales imbriquées et historiquement conditionnées.

En este artículo se investigan las desigualdades mundiales imbricadas en la respuesta internacional a los virus letales. Para lograrlo, desarrolla un enfoque virográfico del estudio de las relaciones internacionales que se basa en los métodos matriciales liderados por el pensamiento feminista negro para desentrañar formas particularmente complejas de opresión entrelazada. Tal virografía de las relaciones internacionales comienza a desenmascarar las disparidades económicas, raciales y epistemológicas multifacéticas arraigadas al manejo internacional de virus emergentes. Además, muestra cómo esos numerosos ejes de desigualdad internacional se cruzan durante los brotes virales para formar una matriz mortal de subyugación mundial (abandono vital) que priva en repetidas ocasiones a la población mayoritaria del mundo del acceso equitativo a intervenciones biomédicas que salvan vidas. Por último, rastrea cómo las afirmaciones diplomáticas de soberanía viral, es decir, reclamar la propiedad legal de los patógenos, también registran de manera directa virus letales en las estrategias políticas de los países que buscan resistir activamente su abandono vital. Realizar tal virografía contribuye al estudio general de las relaciones internacionales poniendo en primer lugar la relevancia global de las posicionalidades e injusticias epidemiológicas al capturar el poder de actuación de los virus letales en la política mundial contemporánea e insinuar que lo “internacional” se puede estudiar como una matriz en continua reconfiguración de desigualdades globales entrelazadas e históricamente condicionadas.

It is frequently said that viruses do not respect borders. This refrain has been repeated countless times as the world continues to battle against a growing epidemic of epidemics—from severe acute respiratory syndrome (SARS), pandemic flu, and Middle East Respiratory Syndrome (MERS) through to Ebola, Zika, and now COVID-19 (Christiansen 2018; Davies and Wenham 2020). Despite its widespread popularity, however, the idiom is not in fact accurate or at least not entirely. This article reveals how ever more governments around the world are unexpectedly subjecting lethal viruses to novel bordering practices (see El-Enany 2020), which were first instantiated over a decade ago while the international community prepared for the specter of an H5N1 (“bird flu”) pandemic. With human cases of H5N1 infection spreading across Asia, scientists quickly scrambled to assess the threat posed by those viruses possessing a human mortality rate of around 40 percent. Yet, amidst that frenzy of high-level international pandemic preparedness activity, and just as scientists sought to commence the critical process of developing life-saving new vaccines, something unexpected happened. The one country in the world experiencing the most human cases of H5N1 infection—Indonesia—suddenly decided to cease sharing its virus samples with other countries around the world.

Indonesia’s decision was accompanied by the launch of a new diplomatic doctrine known as “viral sovereignty.” The doctrine contends that viruses circulating within the territorial borders of Indonesia belonged to that country; it is, therefore, also a sovereign political decision for the Indonesian government whether or not to share those virus samples with the rest of the world (Hameiri 2014; Fearnley 2020; Halabi and Katz 2020). Indonesia launched this novel doctrine due to its concern that it would not receive equitable access to the benefits subsequently generated from such international virus-sharing, especially to any new biomedical interventions. As the Indonesian Health Minister, Siti Supari, argued at the time: “Whenever they find [a]

vaccine for human pandemic of avian flu, I was certain that the rich countries with lots of money will be the first priority, even though the materials of the vaccines, i.e. the viruses, come from the affected countries” (Supari 2008, 6).

As the underlying reasons for Indonesia’s unexpected decision were not widely appreciated at the time, its assertion of viral sovereignty quickly provoked widespread consternation and even outright moral condemnation. Many viewed this refusal of international scientific cooperation amidst the imminent threat of a global pandemic as an unacceptable unilateral act that put the rest of the world at a heightened risk. A senior US diplomat, Richard Holbrooke, even published an opinion piece coauthored with the Pulitzer Prize winning science journalist, Laurie Garrett, in the *Washington Post* attacking the idea of viral sovereignty as “extremely dangerous” and as “fueled by self-destructive, anti-Western sentiments”; the piece further called the idea “dangerous folly,” “ludicrous,” and ultimately even “morally reprehensible” because it “could lead to a devastating health crisis anywhere, at any time” (Holbrooke and Garrett 2008). They were particularly concerned that without access to the crucial Indonesian H5N1 virus samples, it would prove far more difficult for other countries around the world to track the transmission of the virus and to develop life-saving medical interventions. Yet, despite such prominent condemnation, the doctrine of viral sovereignty has not dissipated. On the contrary, it has continued to gain international political traction as ever more governments around the world subsequently followed Indonesia’s example and began to similarly assert legal ownership claims over such pathogen samples. Gone now is the historical assumption of the largely unencumbered international movement of pathogen samples from outbreak countries to the world’s leading scientific laboratories, fueling concerns that the international response to future outbreaks could become delayed and even hamstrung by intensifying international battles over the ownership of deadly viruses.

Prompted by those growing assertions of viral sovereignty, this article investigates the global inequities that remain imbricated in the international response to lethal viruses. It does so by developing a virographic approach to the study of international relations that builds upon the matrix methods pioneered within black feminist thought for unraveling particularly complex forms of interlocking oppression. Performing such a virography of international relations exposes the multifaceted economic, racial, and epistemological disparities embedded in the international management of emergent viruses. It further demonstrates how those multiple axes of international inequality intersect during viral outbreaks to form a deadly matrix of global subjugation—*vital abandonment*—that repeatedly deprives the world’s majority population from equitable access to life-saving biomedical interventions. It finally also reveals how diplomatic assertions of viral sovereignty, that is, claiming legal ownership of pathogens, are directly enrolling lethal viruses now in the political strategies of countries seeking to resist their vital abandonment. Overall, a virography thus contributes to the broader study of international relations by foregrounding the global salience of epidemiological injustices and positionalities, by capturing the actant power of lethal viruses in contemporary world politics, and by intimating that the “international” can itself be studied as a continually reconfiguring matrix of interlocking and historically conditioned global inequities.

Specimal Friction: The Global Kinematics of Virus Samples

Whenever a new and lethal infectious disease outbreak occurs anywhere in the world, it is critical that biological specimens of the novel pathogen causing that outbreak are rapidly exchanged between scientists, governments, and industry. Such samples can usually be isolated at the geographic source of the outbreak from the blood, saliva, or tissue of infected persons (or animals), from where they are then shipped to the world’s leading laboratories for more detailed scientific analysis

(Rizk et al. 2020, 13; WHO 2021, 6). Without this crucial, but little-known, form of international cooperation, scientists cannot carry out rapid risk assessments, governments cannot properly calibrate public health responses, and industry cannot commence the vital work of developing new diagnostics, medicines, and vaccines (WHO 2021, 1). Viral specimens, therefore, sit at the center of what the geographer Steven Harris calls the complex kinematic geography of movement that is required for the production of scientific knowledge during global health emergencies (Harris 2011, 62). It is not even an exaggeration to suggest that lives may literally depend upon the speed and ease with which such pathogen samples are exchanged internationally during outbreaks.

Yet despite this powerful global health rationale, as well as long-standing norms of scientific cooperation, the timely international sharing of pathogen samples can no longer be taken for granted. The exact extent of the problems emerging around the global sharing of virus samples remains unknown because no organization formally tracks the international movement of biological specimens, with the notable exception of some influenza virus samples (Rizk et al. 2020, 13). Each outbreak does, however, generate a plethora of new reports, scientific articles, opinion pieces, editorials, blogs, ad hoc initiatives, case studies, and newspaper articles. Triangulating those voluminous sources about recent outbreaks reveals that many other governments soon decided to follow Indonesia's controversial assertion of viral sovereignty, and by 2007 there were already some twenty other member states of the World Health Organization (WHO) reportedly threatening to similarly withhold their viral strains (Abramowitz et al. 2018, 21).

When, five years later, a new coronavirus caused an outbreak of MERS, scientific efforts to investigate this new virus again became marred by "disputes between parties trying to exercise competing legal rights over the MERS virus and controlling access to virus samples" (Katz and Phelan 2018b, 3, 9–10). Government officials in Saudi Arabia were concerned that the samples had been sent to the Netherlands for scientific analysis without the government's permission and began to exert sovereign claims over the samples. The following year, in 2013, international apprehension was triggered once more by the outbreak of a novel influenza virus (H7N9) causing human deaths in China. China did make genetic-sequence data of the novel H7N9 virus openly available through an international initiative called GISAID (Elbe and Buckland-Merrett 2017), but such sharing did not extend to the crucial virus samples. While China reportedly shared some samples with South Korea (Abramowitz et al. 2018, 21–22), researchers in the United States voiced their disquiet that "China has not shared samples of this evolving, highly pathogenic strain of H7N9 influenza with the United States for over a year" (Bollyky and Fidler 2018).

Similar international tensions resurfaced during the 2014 outbreak of Ebola in West Africa. Many scientists from leading US laboratories again complained vociferously during the early stages of the outbreak that "they cannot obtain samples of Ebola, complicating efforts to understand how the virus is mutating and develop new drugs, vaccines and diagnostics" (Steenhuysen 2014). In the aftermath of the outbreak, the governments of Guinea and Sierra Leone also began regulating access to such biological samples much more tightly (Katz and Phelan 2018a, 9). This international state of affairs remained largely unchanged during the 2015 Zika outbreak in South America, where scientists struggled once more to confirm whether the virus was responsible for birth abnormalities due to a scarcity of biological samples coming out of Brazil, which also frustrated efforts to develop diagnostics, medicines, and vaccines (Cheng, Satter, and Goodman 2016).

Nor was this emerging international pattern displaced by the more recent outbreak of COVID-19. Researchers analyzing the viruses circulating within China shared sequence data of SARS-CoV-2 on January 10, 2020, less than two weeks after China officially reported the outbreak to WHO. Again, however, the situation

remained noticeably different in relation to physical specimens, with anecdotal reports suggesting that many countries did not wish to share their virus samples during the early stages of the outbreak (Hammond 2021, 2). This meant that researchers working outside of China could only access such samples at the end of January 2020 and *after* the virus had already spread to their countries via traveling persons, thus losing valuable preparation time during those crucial initial stages of the outbreak (Rourke et al. 2020). All the while, important animal and environmental samples taken near the Huanan market in Wuhan, the suspected geographic origin of the outbreak, were also not shared with the rest of the world for many months (Page and Khan 2020).

A trend is thus discernible throughout recent global health emergencies whereby ownership contestation over viral specimens is spreading and intensifying internationally. The traditional patterns through which scientists tended to exchange such biological samples based on the existing personal or professional relationships are beginning to subside; what started over a decade ago with a controversial decision by the Indonesian health minister to assert the doctrine of viral sovereignty has rapidly become a broader diplomatic principle invoked much more widely by many governments around the world. While this does not mean that some international virus sharing does not happen some of the time, it does suggest that diplomatic assertions of viral sovereignty have become sufficiently widespread to trigger fears that resulting ownership disputes will delay (and even prevent) the time-sensitive international exchange of pathogen samples during future outbreaks, with adverse implications for global public health (WHO 2018, 3; 2021, 6). Some vaccine manufacturers claim that resulting changes in national legislation around the world already pose a challenge for receiving and using candidate vaccine viruses (WHO 2021, 8).

In her insightful ethnography of global connections, the anthropologist Anna Lowenhaupt Tsing explores how global aspirations—in capitalism, science, and politics—often come to life in “friction.” Their universal dreams, she argues, all depend upon global connections that are “charged and enacted in the sticky materiality of practical encounters” (Tsing 2005, 1). Tsing, therefore, understands friction to be more than mere resistance; it marks “the awkward, unequal, unstable, and creative qualities of interconnection across difference” (Tsing 2005, 4). Mobilizing the metaphor of how rubbing two sticks together produces heat and light, she argues that “friction reminds us that heterogeneous and unequal encounters can lead to new arrangements of culture and power” (Tsing 2005, 5). By now, it is evident that the international sharing of viral specimens during global health emergencies similarly forms such a crucial site of emergent global friction: *specimal friction*.

Virography: Matrix Thinking and Global Health Emergencies

Assertions of viral sovereignty are frequently met with consternation and puzzlement, particularly by those who tend to view international virus sharing as an apolitical and technical field of scientific cooperation serving the broader interests of global health. Dismissive responses to the diplomatic doctrine of viral sovereignty, particularly in male-dominated diplomatic fora, may have also been mediated by the fact that it was initially articulated by a female, Muslim health minister. Yet, to reject those proliferating assertions of viral sovereignty as misguided or incomprehensible fails to understand their inherently political nature. The rise of viral sovereignty marks a direct reaction to a plethora of historical injustices and ongoing structural inequalities that continue to characterize the contemporary management of global health emergencies. Those underlying international inequalities can be teased out much more systematically with the help of conceptual approaches originally pioneered by black feminist writers grappling with particularly complex systems of interlocking oppression.

One of the core insights that black feminist scholars derived from their class- and race-based analyses is that the lives of black women, social inequality, and indeed the wider organization of power within society are not just shaped by any single axis of social division but by many axes working together and mutually reinforcing each other. Thus, the members of Combahee River Collective—a small group of African-American lesbian women living in Boston—famously described their task as “the development of integrated analysis and practice based upon the fact that the major systems of oppression are interlocking” ([The Combahee River Collective 2014](#), 271). In so doing, black feminist thought “fosters a fundamental paradigmatic shift in how we think about unjust power relations. By embracing a paradigm of intersecting oppressions of race, class, gender and sexuality and nation, ... [b]lack feminist thought reconceptualizes the social relations of domination and resistance” ([Collins 2000](#), 291–92). Historically, such matrix—or grid—thinking was not intended to investigate a problem such as international virus sharing, and the wider appropriation of black feminist thought within the academy also remains the subject of ongoing contestation ([Bilge 2020](#)). Yet, its established capacity to unravel particularly complex, hidden, and interlocking systems of oppression, makes matrix thinking a valuable methodological resource for also probing more deeply into the multifaceted inequalities operating in the international response to emergent viruses. This article, therefore, takes up the invitation of some of its leading proponents to explore the potential of matrix thinking to serve as a wider critical social theory ([Collins 2019](#), 2) while acknowledging the origins of such thinking within black feminist thought.

Such a novel mobilization of matrix thinking begins to stretch its scalar parameters considerably. The existing matrix studies have mostly focused on three key levels of analysis at which oppression is usually experienced: the personal, the community, and the systemic level of social institutions ([Collins 1990](#), 228). International virus-sharing practices additionally traverse two further levels of analysis that are *not* usually considered within matrix thinking: the “viral” and the “international.” Developing a matrix approach to the study of international virus-sharing practices, thus, begins to augment the scalar boundaries of matrix thinking in two opposite directions at once. On the one hand, it pushes such matrix thinking further “downward” to additionally encompass the sub-human and post-human level of microscopic viruses. At the same time, it also intensifies ongoing efforts to extend matrix thinking further “upward,” to move beyond the nation so as to also incorporate more directly the level of the international ([Collins 2019](#), 22, 44; see also [Collins and Bilge 2016](#), 88–113). Yet, this (double) scalar augmentation of matrix thinking produces a key conceptual benefit: it opens up a new *virographic* approach to the study of international relations that can more systematically analyze the global inequities entangled in international responses to lethal viruses. Performing such a virography ultimately reveals how the lives of millions of people all around the world are exposed to global injustices engendered at the very nexus of those viral and international domains.

Methodologically, the process of undertaking this virography of international relations requires much more detailed scrutiny of international virus-sharing practices to investigate how they too are permeated by hidden axes of inequality, injustice, and oppression ([Crenshaw 1989](#); [May 2015](#), 1). In terms of the controversial assertion of viral sovereignty by Indonesia and many other countries, it means not dismissing this unconventional gesture out of hand but approaching it as a valuable entry point for reflecting more critically upon the dominant systems operating in contemporary global health emergency management (see [May 2015](#), 29). It further requires a revisiting of the voluminous literature on recent outbreaks with a view to centering and foregrounding voices that often remain marginalized, ignored, and/or excluded in these practices of responding to global health emergencies (see [Mignolo 2009](#)). It finally also demands closer analytical attention to how

different axes of inequality can coalesce to form an interlocking matrix of domination, that is, how multiple such “intersecting oppressions are actually organized” through the matrix of domination (Collins 2000, 21). Overall, then, a virography of international relations can build upon insightful analyses that focus on one prominent set of power relations—such as gender—traversing the international response to global health emergencies (Harman 2021; Wenham 2021); however, it also necessitates additional analysis of how multiple kinds of different oppression can intersect and “work together in producing injustice” during global health emergencies (Collins 2000, 21). Performing such a virography of international relations begins to reveal at least three different axes of international inequality that are deeply imbricated in international virus-sharing practices: economic, racial, and epistemic (see also Farmer 2003).

The Geopolitics of Biocapital

The most prominent of these global axes of inequality is undoubtedly economic in nature and manifests in the highly unequal international access to biomedical interventions during global health emergencies. “[T]he single greatest global challenge in public health,” a report by the Third World Network (TWN) notes, “is to address the huge disparities between wealthy and poorer countries in their citizens’ access to vaccines, therapeutics, and diagnostics” (Hammond 2021, 3). The global demand for new biomedical interventions spikes dramatically during pandemics and certainly runs much higher than the initial international production capacity for novel therapeutic products. With global pharmaceutical production largely concentrated in profit-orientated commercial and corporate enterprises, and in a context where demand outstrips global supply under market conditions, the factor most likely to determine who will secure access to those scarce treatments during a pandemic is price. Low- and middle-income countries (LMICs), therefore, routinely struggle to compete with their wealthier counterparts in securing access to such life-saving biomedical interventions.

Recent experiences with COVID-19 underscore those longer standing concerns. In the early stages of the COVID-19 pandemic, many high-income countries pledged support for the new COVAX facility—an ambitious international procurement mechanism designed to equitably supply newly developed COVID-19 vaccines to the entire world. However, many high-income countries subsequently entered into extensive bilateral agreements with commercial vaccine manufacturers to supply their populations, and so the COVID-19 pandemic was once again marked by a resurgence of vaccine nationalism, with many high-income countries purchasing far more vaccine doses than needed for the size of their population (Hammond 2020, 2; Wouters et al. 2021). Over a year into the pandemic, many low-income countries were still struggling to vaccinate even 10 percent of their populations, while many high-income countries were already accumulating spare doses and contemplating additional “booster” shots (Usher 2021). As with many prior outbreaks, a major gap thus rapidly emerged between high- and low-income countries around access to vaccines during COVID-19 (Eccleston-Turner and Upton 2021; Mathieu et al. 2021).

Yet, those international tensions over affordability are only the most immediately apparent economic inequalities that are relevant here. A subtler form of economic inequality additionally relates to how the global geographic distribution of pharmaceutical infrastructures has evolved historically. That is because countries home to substantial pharmaceutical infrastructures also possess a second option for securing access to scarce biomedical interventions; they can invoke the exceptional circumstances of a pandemic to nationalize pharmaceutical products manufactured within their territories. During pandemic flu (H5N1, H1N1), for example, the limited global manufacturing capacity for pandemic influenza vaccines was geographically concentrated in high-income countries (Australia, Europe, Japan, and

North America), giving those countries and regions a distinct advantage in terms of securing priority access to medicines for their populations (WHO 2005, 47; Elbe 2018). Yet, this alternative option of nationalizing supplies, which has resurfaced in the form of widespread vaccine nationalism during COVID-19 (BBC 2021), is only available to those countries possessing such pharmaceutical infrastructures, again excluding the vast majority of the world's LMICs. Thus, the geographically uneven global distribution of pharmaceutical infrastructures compounds their subaltern economic position during global health emergencies.

Many LMICs are also at a third economic disadvantage here. Scholars of international political economy have described how biocapital, that is, the growing commercial exploitation of biological materials, has become a highly profitable component of the global economy (Rajan 2006; Birch and Tyfield 2013; Elbe and Long 2020). Global health emergencies can generate lucrative opportunities to produce such commercial biovalue and financial profit by triggering immense international demand for new diagnostics, medicines, and vaccines; virus samples are critical to those commercial production processes. While pathogen samples are initially shared for noncommercial public health purposes (such as characterization and monitoring of genetic variations), some of these samples are subsequently also used by the pharmaceutical industry for commercial and profit-orientated practices to develop proprietary commercial biomedical interventions (Hammond 2020, 1). With biomedical expertise and production capabilities concentrated in high-income countries, however, such commercial revenues again flow mostly to their corporations and stakeholders. To the Indonesian health minister, the entire system of international virus sharing, therefore, appeared to perpetuate a protracted cycle of international economic inequality in which “the developed countries become richer and richer while the poor countries become poorer and poorer” (Supari 2008, 6).

Emphasizing the powerful global health rationale for international virus sharing obscures, then, how those practices can also buttress the hegemony of already dominant economic actors in international relations and how LMICs frequently occupy a subaltern position during global health emergencies. Unlike their wealthier counterparts, LMICs cannot usually access the life-saving biomedical interventions that are subsequently developed with those critical samples. They also do not have the option of nationalizing such products to secure access for their populations nor can they reap the considerable commercial benefits generated from such biomedical technologies. Viewed from this perspective, the entire process of international virus sharing can appear intensely unjust, resembling an elaborate international circuit of dispossession “in which property is generated under conditions that require its divestment and alienation from those who appear, only retrospectively, as its original owners” (Nichols 2018, 5). Echoing the geopolitics of knowledge articulated by Walter Mignolo (2002) to ask “who and when, why and where is knowledge generated” (Mignolo 2009, 160), there is also a highly stratified geopolitics of biomedicine that only selectively protects some populations against emergent viral harms.

The Whiteness of Global Health Security

This international axis of economic inequality is entangled with a second axis of racial inequality. That is because the uneven geographic distribution of biomedicine is historically closely bound up with the legacies of racialized colonial expansion, extraction, and capitalism (see Bhattacharyya 2018; see also Jones 2008). Throughout those histories, biological resources central to the advancement of scientific knowledge, medicine, and commerce were taken from indigenous and colonized peoples and then brought back home to metropolises of European empires, frequently without explicit consent (Schiebinger 2007, 6). Many of these practices were carried out on the basis of the constructed racial inferiority of the people from which those

resources were taken (Quijano 2000; 2007b). Land appropriation from indigenous communities in the so-called New World, for example, was catalyzed by their perceived racial and cultural “otherness,” which meant that they were not recognized as having “true” possession of these lands (Harris 1993, 1721–22; see also Grovogui 1996). Those experiences of colonialism still resonate within the contemporary context of global health emergencies (King 2002; Packard 2016; Richardson 2020).

The ongoing practices of international virus sharing continue to exhibit a dominant “whiteness”—understood here not as a simplified marker of “ethnicity” or skin color but as “a ‘standpoint’ rooted in structural power” (Sabaratnam 2020, 5). The philosopher George Yancy argues that whiteness can be conceived of as a particular power–knowledge nexus “inextricably linked to a (white) regime of truth and modalities of power” (Yancy 2004a, 108), which places whites in positions of power vis-à-vis non-whites by virtue of their whiteness (Yancy 2004b, 6; see also Abímbólá and Pai 2020). Such white normativity manifests during global health emergencies when, for instance, outbreak countries are not perceived as having equally legitimate ownership rights over biological materials located inside their territories, and it therefore appears acceptable to remove such samples from their countries. “Each time I looked into the past,” the Indonesian health minister observed during the H5N1 outbreak, “I saw the shadow of imperialism that had taken the most resources of my country because we had no technology to take the benefits from our resources” (Supari 2008, 10). During the Ebola outbreak in West Africa, several of the outbreak countries became similarly concerned that thousands of biological samples were being transferred out of their countries amidst the chaos of the initial response (Yozwiak, Schaffner, and Sabeti 2015). With public concern growing that international researchers were effectively “stealing African populations’ biological property,” several governments enhanced export restrictions around such biological samples (Abramowitz et al. 2018, 105). As one observer puts it: “Everyone knows it’s a holy mess. At the moment, it means all sharing [of samples] is on hold” (quoted in Freudenthal 2019).

The whiteness of global health emergency management is further reflected in discussions about the security considerations surrounding those lethal virus specimens. Here, too, outbreak countries are frequently cast in an inferior position when foreign experts remind them that they lack the capacity to handle such dangerous pathogens safely, and it would therefore be better to transfer them to countries owning such facilities. Very few countries in the world possess the high-security biosafety level 4 (BSL-4) laboratories needed to securely handle dangerous pathogens. Yet, this comparative “underdevelopment” of many outbreak countries is no mere accident of history. A more diachronic perspective would suggest that this is often also grounded in the longer histories of colonialism that sanctioned—politically, economically, and socially—the underdevelopment of other parts of the world through practices of extraction and colonialism (Rodney 2018). This historical legacy leaves many outbreak countries confronting a difficult dilemma: should they oblige to foreign requests to hand over their samples, destroy them, or retain the samples with all of the attendant biosecurity risks that entails (Rizk et al. 2020, 30)? They must make these deliberations, moreover, against the backdrop of long-standing suspicions that powerful foreign countries may covertly steal such pathogen samples from them anyway in the name of national security (Rizk et al. 2020, 30).

Finally, the whiteness of global health emergency management is also evident when interactions with outbreak countries do not afford their official representatives a level of recognition befitting countries of equal standing. One report of the Yellow Fever outbreak in Angola notes how the European Centre for Disease Prevention and Control (ECDC) “came under considerable fire by Angolan public health officials, for having sent young, inexperienced personnel who were simply using the epidemic as an opportunity for experience” (Abramowitz et al. 2018, 59). During

the MERS outbreak, the government of Saudi Arabia felt similarly aggrieved by the practice of foreign researchers “parachuting” into their country without properly engaging or collaborating with government officials and without seeing the need to engage the local authorities (Katz and Phelan 2018b, 5). Entangled with the more prominent global axis of economic inequality is, therefore, also a second axis of racial inequality reflected in the ways that outbreak countries and populations of color are frequently construed as inferior in relation to established white norms and power structures—because their ownership claims over such samples are not recognized as being equally legitimate, because they are construed as being incapable of handling such pathogen samples safely, and because they are assigned a subaltern position in the research practices surrounding such novel pathogens.

Epistemological Extractions and Erasures

Science does not stand outside of this entanglement of economics and race and forms yet a third global axis of epistemological inequality traversing virus-sharing practices. Throughout history, the epistemic practices of the natural sciences have frequently been put into the economic service of the powerful and have contributed to the international projects of imperialism and colonialism (see Harding 2011; Adas 2016). The entanglements of science and race are likewise attracting greater attention from historians of science, especially in relation to overt acts of scientific racism unfolding during scientific research as well as its contribution to the biologization of race (Robinson 1983, 76; Saini 2019). Comparatively less attention, however, has been paid to what Michelle Murphy calls “the inverse subject of racialized disadvantage—the work of racialized privilege” and “to the work of racialization in scientific practices not explicitly about race, in practices we would call normal science” (Murphy 2006, 112).

Although many of the scientific practices mobilized during global health emergencies are not thematically concerned with race, they nevertheless resonate with such epistemic privilege. The setting of research priorities during outbreaks, for example, often favor the scientific interests of powerful countries. During the Ebola outbreak in Africa local researchers felt that research priorities were mostly driven by the interests of foreign researchers rather than by local needs. Priority was given to research on biological specimens instead of focusing on questions about local transmission patterns, natural reservoirs, ecosystems, and diagnostics (Abramowitz et al. 2018, 89). These were the key questions for outbreak countries, but “[n]ot much has been done in this way, unfortunately. Only the samples were transported outside” (quoted in Abramowitz et al. 2018, 89). More recent revelations by investigative journalists underscore the significance of this problem. They detail how thousands of blood samples from West Africa were subsequently exported abroad and that scientists from Sierra Leone, Guinea, and Liberia are now frustrated because they cannot access these samples for research benefitting their countries, even though some of those scientists put their lives at risk to obtain the samples (Freudenthal 2019).

Epistemic privilege is further reflected in the way that researchers from outbreak countries are often marginalized in, and excluded from, processes of scientific knowledge production. Researchers working in LMICs can confront powerful obstacles to satisfying their own research aspirations because they lack access to sophisticated laboratory facilities, cannot find sufficient time amidst their existing employment to conduct research projects, or do not have access to the funds required (Crane 2013, 131, 132). Again, such comparative scientific “underdevelopment” cannot just be construed as a natural state of affairs but is again also linked to longer histories of colonialism and racism (Rodney 2018, 14); it can leave scientists in outbreak countries with little choice but to cooperate with foreigners if they want to undertake research. As one African researcher put it: “When you have

a really powerful team and a weak [one]... you can't speak of sharing. This is an abuse of language. Either we share nothing, or give and others exploit, or keep back and nothing is done. But sharing, that means that each person has a capacity to do something ... It is difficult for me to hear this word 'sharing.' It isn't sharing when it's a question of 'I give' or 'I keep'" (quoted in [Abramowitz et al. 2018](#), 25). The very language of "sharing" itself already masks the deeper inequalities often at play in this field.

Scientists from high-income countries finally also occupy a privileged epistemic position regarding the allocation of rewards, prestige, and other career benefits resulting from research on novel pathogens. The international standing of scientists, and the funding they can attract for their research teams, is closely tied to publications and citations. Scientists' careers can benefit substantially from publishing research about dangerous new pathogens at the forefront of international attention. Yet, LMIC scientists report experiences in which scientific analyses derived from samples they have shared in the past (because they lacked the powerful molecular research capacity of laboratories in high-income countries) were subsequently presented at international meetings and conferences without proper advance notification or without including those who had shared the samples in the authorship arrangements ([Sedyaningsih et al. 2008](#); see also [Elbe and Buckland-Merrett 2017](#)). Lisa Tilley highlights the problematic nature of such "piratic" research more generally, understood "as methodologies which do not value knowledge until processes of extraction, commodification and value addition have been applied through academic refinement, generally in the Global North" ([Tilley 2017](#), 27–28; see also [Chivalán Carrillo and Posocco 2020](#)). An extensive array of academic value production surrounds the epistemological study of lethal viruses, culminating in a global health science "that paradoxically embodies and even benefits from the very inequalities it aspires to redress" ([Crane 2013](#), 7; see also [Kim 2021](#)). In the end, international virus-sharing practices are also traversed by a third axis of global epistemological inequality whereby the roles, research priorities, and contributions of researchers from LMICs can become marginalized and even erased at times.

Vital Abandonment: A Global Matrix of Lethal Subjugation

During global health emergencies, all three of these economic, racial, and scientific axes of inequality coalesce to produce an interlocking and lethal matrix of global subjugation: *vital abandonment*. Vital abandonment here refers to the very specific ways in which the above inequalities (and others) intersect during global health emergencies to generate an increased burden of death and disease for the world's majority population—by depriving them of equitable access to medicines, vaccines, diagnostics and other life-saving medical equipment. Their resulting and interlocking subjugation is *vital* in the very literal sense that the sociologist Göran Therborn defines vital inequality as the "socially constructed unequal life-chances of human organisms" ([Therborn 2013](#), 49). Yet, this biomedical marginalization is also frequently so severe that referring to it merely as another form of inequality would not do full analytical justice to the gravity of this phenomenon. The biomedical marginalization engendered at the intersection of all those international inequalities ultimately leaves most LMIC populations in a state of near-total disposability during global health emergencies (see [Odysseos 2015](#)), as their bare life effectively becomes exposed to the unfettered circulation of lethal viruses without any meaningful protection from any biomedical interventions (see also [Hentschel and Krasmann 2020](#)).

In terms of this underlying severity, the biomedical marginalization experienced during global health emergencies also resonates with the notion of social abandonment advanced by the anthropologist João Biehl. Biehl observed how protracted zones of social abandonment have emerged in several Brazilian cities; he describes

in moving detail how many sick people living in one of those zones—*Vita*—simply died without access to medicines, until someone eventually opened a small pharmacy relying mostly on donations (Biehl 2005, 103). During global health emergencies, a very similar plight is faced by hundreds of millions of people around the world, who also remain unable to access potentially life-saving medicines or vaccines. Thus, the notion of *vital abandonment* advanced here builds upon both Therborn’s idea of *vital inequality* and Biehl’s concept of social *abandonment*, to capture the very severe and widespread biomedical marginalization faced by the world’s majority population during global health emergencies (see also Selmeczi 2009). Precisely because this phenomenon of vital abandonment unfolds across such a vast geographic scale, moreover, it also remains analytically distinct from the much more localized zones described by Biehl as an anthropologist. Vital abandonment does not just manifest in particular urban areas of a country such as Brazil; it rapidly extends into a far more expansive international space during global health emergencies, geographically spreading across a whole array of formerly colonized peoples living across multiple continents and affecting the world’s majority population (see also Lowe 2015).

This should not be read to imply that vital abandonment is always experienced uniformly across that diverse international population. Significant differences can exist within and between countries, especially as some LMICs are in the process of developing their own biomedical capabilities now. It is, however, to accentuate just how extensive the geographical span of this near-global matrix of lethal subjugation remains even today. It is, furthermore, to show how this biomedical deprivation is not just produced by any single axis of inequality but marks a complex form of interlocking subjugation produced by the particular ways in which those multifaceted economic, racial, and epistemic inequalities intersect in the world. It is, moreover, to highlight that this subjugation has not just occurred as a one-off during COVID-19 but has been repeated time and again from one recent global health emergency to the next. Indeed, the global matrix of vital abandonment captured here marks a salient reminder of how efforts to strengthen global health security invariably tend to be followed by a harrowing shadow of comparative biomedical deprivation in most parts of the world; it arguably marks one of the most striking ways in which such historical patterns of abandonment and injustice continue to manifest in the twenty-first century.

How, then, can countries experiencing such repeated vital abandonment possibly resist it? As the Indonesian health minister, Siti Supari, argued: “I had to change the paradigm. How? I had nothing. My country is not a superpower. I am only a Health Minister with 240 million people to serve ... I had to do something ... the main variable ... is the wild virus. So I had to stop the virus sharing ...” (Supari 2008, 163). Supari realized that all of the international anxiety around “bird flu” suddenly made the H5N1 viruses circulating inside of Indonesia’s territorial borders very “valuable” to the rest of the world (Rizk et al. 2020, 31). By appropriating legal ownership of these virus samples through assertions of viral sovereignty, she could begin to mobilize them as novel diplomatic bargaining chips for negotiating more equitable global access to vaccines and other benefits. “[B]y recognizing our right over the viruses,” she argued, “we can obtain whatever we need respectfully, because we own something precious to give” (Supari 2008, 41). When scientists eventually confirmed to her that the Indonesian virus strand of H5N1 was more virulent than other strands (and, thus, of immense interest to those tracking the evolution of the virus and making vaccines), she even felt “happy”, because for Indonesia, this now meant “stronger bargaining power!” (Supari 2008, 27). This diplomatic strategy of asserting viral sovereignty, which has since also been adopted by a growing number of other formerly colonized states, thus begins to directly enroll lethal viruses in international political efforts to resist vital abandonment and to achieve greater global justice (Collins 2000, xii; 2019, 84).

There is evidence that this political strategy of asserting viral sovereignty is beginning to provoke significant unease among high-income countries. The WHO has already warned that cumbersome processes of sorting out legal ownership arrangements “could result in significant bottlenecks to sample sharing” and “slow down sharing of pathogens, which could delay public health risk assessment and the development of medical countermeasures, such as vaccines, diagnostics and antivirals” (WHO 2018, 6, 5). Reflecting upon the experiences with COVID-19, moreover, the WHO’s Director General argues that “there is an urgent need for a globally agreed system for sharing pathogen materials and clinical samples, to facilitate the rapid development of medical countermeasures as global public goods. It can’t be based on bilateral agreements, and it can’t take years to negotiate” (Ghebreyesus 2020). Those experiences with recent outbreaks, moreover, only represent the proverbial tip of the iceberg, with similar ownership contestation also spilling over into more routine forms of biomedical research now, further magnifying the severity and global impact of this growing specular friction. In the end, a virography of international relations does not just reveal how lethal viruses can engender new forms of hegemony in international relations; it shows how those same viruses are also becoming instrumental now in international political efforts to actively resist and reverse such international hegemony.

Conclusion

As the list of lethal viruses triggering new infectious disease outbreaks continues to expand in the twenty-first century, some scholars are describing the onset of a new planetary epoch called the “virocene” (Fernando 2020). This article has sought to respond to the growing international political salience of infectious disease outbreaks by investigating more systematically the global inequities that remain deeply imbricated in the international response to lethal viruses. It has done so by mobilizing and adapting the matrix methods originally pioneered within black feminist thought for unraveling particularly complex forms of interlocking oppression. Through that mobilization of matrix methods, the article has been able to develop a new virographic approach to international relations that analyzes the subtle interplay of the multifaceted economic, racial, and epistemological disparities traversing the contemporary global management of emergent viruses. Overall, such a virography contributes to the broader study of international relations in three ways.

First, a virography analytically foregrounds a critical axis of global inequality that usually does not receive much explicit scholarly attention in international relations: the *epidemiological*. Here, the article has mapped how the underlying epidemiological interdependence that connects different people living all around the world engenders an expansive array of international economic, racial, and epistemological relations. By capturing the matrix of vital abandonment, moreover, this virography has also revealed just how profoundly people’s lives and life chances are shaped by such international epidemiological inequalities relating to their geographic exposure to disease as well as highly differential national capacities to manage its spread. The significance of those underlying epidemiological dynamics is not fully captured by more established categories of social analysis widely used in the discipline of international relations—such as gender, race, class and nation—even if they become deeply entangled with them. In the first instance, a virography thus contributes to the study of international relations by harnessing lethal viruses as a novel epistemic lens through which to tease out the global salience of those *epidemiological* inequalities and positionalities, that is, how different societies, and different subgroups within society, are always already positioned unequally in relation to their risk of succumbing to lethal infectious diseases.

Second, a virography also reveals the actant force of emergent viruses to rearticulate various global inequalities and dominant systems in international relations.

Amidst an acute global health emergency such as COVID-19, the “micro” and the “macro” suddenly become deeply entangled in international relations, and deadly viruses rapidly emerge as a prominent site where all those global economic, racial, gendered, and epistemological inequalities begin to intersect and recombine in novel ways. Thus, a virography of international relations also helps to reveal the actant power exerted by lethal viruses in the international system (see also [White 2015](#); [Fishel 2017](#); [Voelkner 2019](#)). Deadly viruses, we have seen, become variously instrumentalized in the stratified international production of diverse forms of commercial and academic value. Lethal viruses also differentially flow into the national security and biosecurity agendas of nation states. At the same time, lethal viruses become entangled within broader legacies of historical and racial injustices, begin to buttress asymmetric power relations, and reinforce enduring colonial mindsets. Through assertions of viral sovereignty, moreover, lethal viruses even become directly enrolled in the diplomatic strategies developed by many countries seeking to resist their vital abandonment. In the second instance, a virography of international relations thus reveals how global systems of injustice and inequality are not just contoured by the play of a more generalized and already familiar biopower but also by the stratified international circulation of a more diverse, post-human, and structurally entangled *viro*-power.

Finally, a virography of international relations also intimates something broader about the “international.” The virographic analysis performed here suggests that today’s international virus-sharing practices remain profoundly contoured by a pervasive sense of coloniality ([Maldonado-Torres 2007](#), 243; see also [Quijano 2007a](#); [Abímbofá and Pai 2020](#); [Richardson 2020](#)). Even today, this entire field of international virus sharing is still constituted by categories, precepts, and languages that are deeply conditioned by the historical injustices of colonialism and racialized capitalism (see also [Bhambra 2020](#)). This is reflected in the field’s outward appearance as being functional and neutral as well as its reliance on categories such as “high”- and “low”- income countries that do not sufficiently account for how those wealth differences were constituted historically. It is further reflected in the field’s naturalized assumptions that pharmaceutical development should be carried out predominantly in the sphere of private capital and how that entire field is built upon the ingrained epistemic superiority of biomedical knowledges over other forms of knowledge. It is even reflected, as we have seen, in the way in which the constitutive terminology of international virus “sharing” already obscures the underlying operation of stark global inequalities.

All of this means that the knowledge practices involved in the contemporary management of global health emergencies are ultimately constituted not just by what becomes scientifically known about those emerging viruses; they are equally constituted by the many politically significant things that have become *un*-known over time. This points toward a final type of power also operating in the response to global health emergencies: the power of “unknowing” that consists precisely of this ability “to see or not to see, to remain indifferent, to render invisible what one wishes not to see” ([Mbembe 2017](#), 111). If that is true for the specific practices of international virus sharing under investigation here, it may also be true for the scholarly study of international relations more generally. Just as there are many critical structural inequities and historical injustices that have become “unknown” in the management of global health emergencies, so too there is much colonial history and injustice that have become similarly “un-known” in the wider study of international relations ([Vitalis 2015](#)). In the end, a virography of international relations thus intimates that it may no longer be possible to study the “international” solely through the prominent analytical categories of anarchy, empire, or global governance. Rather, it may be necessary to mobilize matrix methods much more widely in the discipline and to study the “international” itself as a continuously

reconfiguring matrix of deeply interlocking and historically conditioned global inequities.

Acknowledgments

I have benefitted from comments and discussions with participants at the Sussex Centre for Global Health Policy (CGHP) and the Sussex Rights and Justice Research Centre. I am also grateful to William Ampofo, Mike Collyer, James Fairhead, Bobbie Farsides, Earl Gammon, Rebecca Katz, Phoebi Li, Peter Newell, Melanie Newport, Louiza Odysseos, Alexandra Phelan, Anne Roemer-Mahler, Jan Selby, Arianne Shahvisi, Margaret Sleeboom-Faulkner, and Louise Wise for their feedback on earlier versions of these ideas.

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