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Cañada, Jose A.

2022-09-14

Cañada , J A & Venäläinen , S 2022 , ' More-than-Human Dynamics of Inequality in the Governance of Pandemic Threats : Intersectionality, Social Positionings, and the Nonhuman during the 2014 Ebola Outbreak ' , Engaging science, technology, and society , vol. 8 , no. 2 , pp. 58-79 . https://doi.org/10.17351/ests2022.957

http://hdl.handle.net/10138/350223
https://doi.org/10.17351/ests2022.957

Engaging Science, Technology, and Society

More-than-Human Dynamics of Inequality in the Governance of Pandemic Threats: Intersectionality, Social Positionings, and the Nonhuman during the 2014 Ebola Outbreak

JOSE A. CAÑADA
UNIVERSITY OF EXETER
UNITED KINGDOM

SATU VENÄLÄINEN
UNIVERSITY OF HELSINKI
FINLAND

Abstract

In responding to ongoing viral outbreak emergencies, decision-makers constantly face the need to deploy governance measures to meet uncertain scenarios. One of the key aspects of such work is to identify different sources of threat, assess the risk that they pose, and to act in consequence. In this paper, we aim to direct attention toward ways in which science-based international governance practices reproduce various social inequalities by enacting social divisions based on categorizations into the threatening and the worthy of protection. We propose that these practices are usefully approached from the perspective we label more-than-human intersectionality and illustrate this with examples from the 2014 Ebola outbreak. More specifically, we argue that adopting a more-than-human intersectional approach importantly sheds light on connections between outbreak response and inequalities in global health that both precede and emerge in governance practices that provide unequally distributed access to care and protection. Furthermore, we claim that this approach extends our understanding of the role played by nonhuman actors in global health policy and the necessity to pay attention to how those nonhumans motivate specific paths for outbreak response that intersect with social positionings and subsequent dynamics of marginalization and oppression.

Keywords

global health; inequality; intersectionality; more-than-human; Ebola; protection; zoonotic spread

Introduction

The identification and categorization of ongoing and potential pandemic threats presents a constant challenge for the international governance of pandemic threats. As existing literature in the study of science and technology has shown, such governance involves issues related to the effect of constructing virtual futures to prepare for (Samimiam-Darash 2011), and the need to govern a collection of boundaries—such as those separating humans and animals (Keck 2015), or the wild and the domestic (Fearnley 2015). It is also

To cite this article: Cañada, Jose A., and Satu Venäläinen. 2022. "More-than-Human Dynamics of Inequality in the Governance of Pandemic Threats: Intersectionality, Social Positionings, and the Nonhuman During the 2014 Ebola Outbreak." *Engaging Science, Technology, and Society* 8(2): 58–79. https://doi.org/10.17351/ests2022.957.

To email contact Jose A. Cañada: j.canada@exeter.ac.uk.

central to consider the social aspects of scientific knowledge (MacPhail 2014), and the involvement of different communities in preparing for uncertain events (Caduff 2015). Across these examples, there is a common denominator: the challenge of identifying and characterizing the actors involved in pandemics and determining their contribution in tackling or spreading the problem. Viruses' constant mutations complicate the identification of strains with pandemic potential or with the ability to cross the animal-human boundary. Discussions among international policymakers and researchers show how the status of experts tackling the threat is also subject to instable acts of identification. Furthermore, the different visions, discourses, and practices of health around the world pose a challenge to the effective implementation of global pandemic policy.

In this article, we focus on the ways international pandemic response is enacted in technoscientific practices in which different actors are granted varying levels of agency as a result of being identified in particular ways in relation to pandemic threats. We focus on international response to further exemplify the contrast between the deployment of global measures and guidelines, and the unaccounted material and political conditions of target publics (see Bonwitt et al. 2018). Using examples from the 2014 Ebola outbreak, the aim of the analysis is to deconstruct and problematize the conditions created for different actors through their identification and categorization at various stages of the material unfolding of international responses. The underlying motivation behind this aim is to create alternative readings of the dynamics of inequality in global health, and by so doing enhance the incorporation of intersectional and critical understandings into the study of global health.

The article consists of five sections. First, we present relevant literature in the area of Science and Technology Studies that illustrates how categorization and identification processes are key to pandemic preparedness and response. Second, we introduce a theoretical approach that combines a more-than-human perspective and an intersectional lens able to account for the challenges associated to the categorization of the different human and nonhuman actors involved in pandemic events. Third, we discuss the methodology used in gathering the empirical material analyzed in the article. We then proceed to presenting empirical examples in which the notion of more-than-human intersectionality emerges as a useful tool for problematizing social categorizations associated with pandemic governance. Finally, we discuss the ways in which our article contributes to discussions on intersectionality and the science and policy aspects of pandemic governance.

Global Health Emergencies as International Concerns

Although pandemic threats are often framed as global phenomena, it is important to remember that outbreaks of international concern always emerge as local events that, through declarations of emergency such as the label "Public Health Emergency of International Concern" (PHEIC) used by the World Health Organization (WHO), become global. Indeed, as Bingman and Hinchliffe (2008) have described, biological threats to health—such as pandemics—have become one of the most central political issues in global health. Health is not only a matter of national and global security, with an effect on populations as Foucault (2006) conceptualized but is also a part of wider vital systems that sustain societies (Collier and Lakoff 2015). This illustrates the scope of governance present in pandemic preparedness and response: it is not only a scientific or medical matter, but a matter of security, with the accompanying governmental challenges discussed in the literature we introduce below.

The enmeshed global and local dimensions and the centrality of security in global health are key to understanding the different social entanglements that take place during pandemic emergencies. One of the main consequences of this is that the governance of communicable diseases and pandemic threats has started to occupy new spaces. Indeed, the role played by space and its conceptualization continues to change in regard to infectious diseases (Hinchliffe et al. 2013). Accordingly, pandemic governance is not solely articulated around the geographical borders that often serve as lines for containment, but instead pays attention to viruses gaining their effectiveness through intensity and density, namely the accumulation of disease in certain areas and its potential to spread. For Hinchliffe and colleagues (ibid., 538), governance becomes a matter of responding to "tipping points" that signal the overloading of those intensities and densities, instead of "breach points," i.e., the breaching of containment barriers that have traditionally driven public health events. This way, the spatial significance of the threat becomes articulated around its social, political, and spatial relationalities.

This understanding of disease is coherent with a change in the dominant logics of anticipation, which push towards tackling emergencies before they actually take place (Anderson 2010), acting on social relations that have not yet reached that tipping point. This means governing threats at their source of emergence without drawing upon any pre-set measures and by relying on an "all-hazards approach" (Kittelsen 2009). Intrinsic to these changes is the virtualization of biological threats (Samimian-Darash 2011), whereby the lines of events that lead to an emergency being declared are drawn and acted upon before actualization. A central practice in making that uncertainty concrete has been the use of zoonotic modelling to prepare for and respond to both future and ongoing outbreak events. Although widely understood as objective scientific tools, such models require considering the political and social elements that shape their development and authority when informing policy (Leach and Scoones 2013). More concretely, tools like syndromic surveillance (Fearnley 2008), sentinel devices (Keck 2015), and preparedness techniques (Lakoff 2006) are some of the most salient ways in which uncertain biological threats are being handled by health and security authorities.

This has had a direct influence on how threats are identified and how certain social actors are categorized as threatening (Cañada 2018). Indeed, new ways of governing pandemics are not as much directed at governing the virus itself but, rather, the social and material assemblages in which they are embedded—including humans, other animals, biosecurity and biosafety technologies, means of transportation, and the different geographical spaces in which pandemics emerge, spread, and are controlled. When viruses encounter such an array of (human and nonhuman) social actors, they become subjected to multiple modes of categorization that implicate not only their biological features but also social categories effective in distinguishing human actors, such as nationality, gender, educational background, and geographical location. Becoming a threat in this context is therefore not only a viral matter but, rather, a social matter. This means that categorization processes central to pandemic governance contribute to the reproduction of social inequalities—an element of governance that, we argue, has not been granted enough attention.

In this paper, we approach practices in the governance of biological threats with a particular focus on social discrimination enacted through intersectional categorization processes. Moreover, by adopting a more-than-human intersectional approach to the enactment of social discrimination and the accompanying inequalities, we lay emphasis on ways in which both human and nonhuman elements

participate in the sustenance of inequality. This means viewing humans and nonhumans—as well as the various hierarchies within those categories—as constantly shaped in processes of identification whereby their mutual distinctiveness is constituted. This approach allows us to contribute to the study of biosecurity, in general, and pandemic governance; in particular, a central discussion in STS during the last two decades. Our article sheds light on how outbreak response practices participate in the reproduction of discrimination and global health inequalities. It is therefore crucial to understand the processes leading to such outcomes—processes in which assemblages of humans and nonhumans gain various shapes as a consequence of constant efforts at identification that aim to fix their boundaries and thus to restrict the effect of viruses.

More-than-Human Intersectionality

Our enquiry draws on two theoretical traditions with partially differing emphases: new materialist thinking, and in particular a more-than-human approach, and intersectional theory. We propose that a combination of insights derived from these two traditions allows for a nuanced understanding of some of the central processes whereby scientific and governmental institutions identify, categorize and govern pandemic threats. From this combined theoretical framework, it is possible to fruitfully attend to interlinkages between humans and nonhumans in the enactment of global health inequalities and social discrimination in the context of outbreak response.

One of the main proponents of a material politics that has a more-than-human reach is Whatmore (2002; 2006), who has profoundly challenged the ontological separateness of the social and the natural, with an aim to "de-center" (Whatmore 2002, 4) social agency. Whatmore's work puts into practice four (re)turns in social sciences, and geography in particular, that she outlined in 2006, and which have remained at the core of new materialist thinking. These include, firstly, an analytical attunement towards practice instead of discourse, and the associated questioning of the autonomy and priority of human agency over matter (Whatmore 2006, 603–604). Second, a shift from meaning to affect, referring to embodied, sensory impact of intensities that extend beyond individual bodies while rendering them subject to the influence of social and material happenings. Third, a movement towards more-than-human enquiries that allow for seeing complexity in the co-emergence and mutual affectiveness of human and nonhuman elements. Fourth, a shift from the politics of identity to the politics of knowledge production, accompanied by a critical engagement with possibilities to recognize multiplicity and contingency in knowing, along with the effects of scientific practices on the phenomena under examination and vice versa.

These shifts constitute creative re-focusing on processual enactments of liveliness beyond the merely human realm, and thus work to re-enliven objects previously designated as passive. They are key in respect to our analysis in two ways. Firstly, they guide towards a fruitful perspective on how the hybrid assemblages that come to stand for biological threats in expert discourse and practices take shape in dynamic processes that involve both human and nonhuman elements (Cañada 2019). Second, they contribute to building tools for re-shaping those practices in more responsible and ethical ways. In other words, they assist in making agential cuts, as Barad (2007) would put it, that are respectful towards the worlds and spaces that we inhabit, and that attempt to look beyond taken-for-granted categorizations in the context of human and animal health (Green 2012).

Intersectional theory, on the other hand, draws attention toward inequalities and forms of oppression linked with various intersecting categories (e.g. Brah and Phoenix 2004; Crenshaw 1991; Yuval-

Davies 2006). Although coined by Kimberlé Crenshaw in the 1980s, the notion of intersectionality is grounded on a long tradition of work by feminists of color who have aimed to reveal the simultaneous impact of multiple systems of oppression on the lives of specifically marginalized people. In doing this, intersectionality has paid special attention to marginalization associated to race, class, gender, sexuality, ethnicity, nationality, age, and ability (Collins 2019). Thus, an intersectional approach engages with issues of social justice and multi-dimensional patterns of inequality that manifest both locally and globally, and which can be traced back to the operation of systems such as patriarchy, racism, capitalism, and colonial histories dividing South and North (Collins and Bilge 2016). The emphasis is particularly on how variously positioned people are located in terms of power and privilege, and on the social and material consequences of their positionings (Crenshaw 1991).

According to Cho, Crenshaw, and McCall, intersectionality can be conceived of as an "analytic sensibility" that can be put to work not only across different fields of study but also in unison with other theoretical and methodological approaches (2013, 795). Indeed, the applications of intersectionality in social sciences have been far and wide, including areas such as environmental politics (Kaijser and Kronsell 2014) as well as the field of public health, where it has been rightly argued that an intersectional approach has specific value (Bowleg 2012; Lapalme, Haines-Saah, and Frohlich 2020). For the most part, however, analyses with an intersectional orientation in public health have not drawn upon a more-than-human approach, which has had an equally important, yet separate, influence on critical approaches to public health (e.g., Cohn and Lynch 2017; Green 2012; Rock, Degeling, and Blue 2014).

The reason why these theorizations have tended to remain separate is intimately linked with their different entry points into the analysis of inequalities and the related ontological assumptions concerning the positioning of human subjects within the social and material world, which inevitably causes some friction between them. While intersectional approaches have tended to limit their focus on the oppression experienced by humans and produced within human-centered social systems, new materialist more-than-human theorization has challenged the utility of such a focus and has, instead, endeavored to de-center human subjects with an emphasis on their inseparability from other nonhuman actors (Puar 2012). Despite these differences in their approach to humanity, numerous scholars outside the field of public health have brought these theorizations together in their work. More specifically, attempts to synthesize intersectional concerns for social justice with a more-than-human orientation have been made for instance in the field of cultural studies, specifically by Lewis and Kahn (2010) with the conceptualization of exopedagogy, a notion that refers to a pedagogy of the exceptional and of the imagination beyond the barriers of common sense. Similar concerns have also been engaged with in ecofeminism, which has for example shed light on the intersecting processes of animalization and the production of mainly gendered, but also racialized and classed, hierarchies (for example see Twine 2010). Importantly, these enquiries and theorizations have made visible various links between intersecting forms of oppression such as those based on race, gender, and class, on the one hand, and the practices that produce related hierarchical distinctions between humans and nonhumans as well as nature and culture, on the other. Moreover, particularly work drawing on posthumanist theorization along with an intersectional approach (e.g., Puar 2012) has shifted the focus towards viewing hierarchizing categorizations and boundaries, such as those distinguishing humans from nonhumans, as performative and thus under constant construction. This is in close alignment with

Whatmore's (2006) vision outlined above, and also closely characterizes our analytical entry point in this paper.

To give an example of synthesizing a more-than-human approach with an intersectional orientation in practice, we turn to the work of Chen (2011; 2012), where categorizations such as those based on race and nationality are shown to emerge in enmeshment with material aspects that play a central part in social discrimination and injustice. More specifically, Chen (2012) has illustrated how material nonhuman objects can become queered and racialized. As a part of such processes, material objects along with differently positioned bodies become attached to varying levels of agency, which Chen refers to with the concept of animacy. This concept thus allows for approaching hierarchical relations between subjects and objects and for envisioning the possibilities for dynamism and shifts in these relations. It aims at dissolving the boundaries between animate and inanimate elements and actors, and points towards their inherent mutual constitutiveness. Chen's work can therefore be seen as enacting movement towards an understanding of animacy that is inclusive of also nonhuman elements, whose containment in the realm of inanimacy, along with constant attempts to defend against their affect, are destined to fail.

A vivid example of these processes is the moral panic over lead content in Chinese toys fed by the media in the US in 2007. Chen's (2011) multi-layered analysis of this panic from the perspective of toxicity shows the significance of racialized, gendered, and sexualized meanings and hierarchies that were at play in the processes whereby lead became animated though its capacity to threaten those already considered as animate. The lead content of Chinese toys was seen as in danger of becoming immersed into children's bloodstream through their contact with the toys, thus producing detrimental effects to their development. The iconic image created of the child in danger was that of a white, middle-class boy, who was thus constituted as worthy of concern and preventive measures. Chen contrasts this with the lesser attention that was given to Chinese workers (mostly young females) assembling and painting the toys, and to black children living in US, whose subjection to lead due to pollution in many of their dwelling areas had become naturalized at the time of the panic. Thus, the threatening lead became racialized as Chinese, or in general as non-white, and those under threat as white, middle-class Americans. According to Chen, what was hence also at stake in these processes was the threatening of national borders and the economic sovereignty of the US due to the toxic toys having found their way inside the country and thus constituting an alien and yet physically proximate threat to the health of its citizens. This can be understood as a process of deterritorialization (as conveyed by Chen) where the national boundaries have become momentarily undermined and invaded in a similar fashion as in terrorist attacks of 9/11, with its racialized overtones (ibid.).

In this paper, we apply a similarly synthetic more-than-human intersectional approach to an analysis of a public health emergency, namely the 2014 Ebola outbreak and the international response that surrounded it. By so doing, we aim to contribute to the development of perspectives in pandemic governance and international response that attend to the reproduction of social inequalities through an analysis that challenges boundaries between humans and nonhumans. More specifically, from intersectional theory, we adopt an interest in multiple forms of oppression and their interaction in the production of multiple vulnerabilities and marginalities. From more-than-human new materialist theorization, we integrate into our analysis an attunement to fluidity and the constant doing of boundaries that not only work to distinguish groups of humans but also humans and nonhumans. In practice, this synthesizing has led us to analytically

focus on 1) the constant, simultaneous doing of various hierarchical categorizations, 2) the interaction between categorizations that involve both humans and nonhumans, and 3) the material effects of these categorizations on humans and nonhumans.

In the analysis section, we illustrate how this approach allows for examining processes of categorization in international outbreak response whereby certain groups of humans and nonhumans become specifically vulnerable to the impact of the virus, while, simultaneously, their access to the category of the "protected" and to relative safety becomes obstructed. Furthermore, the analysis illustrates the interaction of variously located human and nonhuman bodies and nonhuman viruses in the processes of becoming identified as a threat and thus becoming the object of preventive action. That action produces associated hierarchies of worth in which some actors appear as more deserving of protection than others. We suggest that these processes are central for the reproduction of intersecting forms of inclusion and exclusion, situated both locally and globally (Montgomery and Pool 2017), which lead to the production of threatening and threatened populations in pandemic preparedness and response.

Methodology

The empirical material used in the analysis of this paper, is embedded in the context of a wider project named *Securing the Living—Governance, Materiality and Understandings of Life during Biological Emergencies*, conducted by the first author of the article. The empirical work carried out was inspired by what Youdell and McGimpsey (2015) have called "assemblage ethnography," which is especially designed for studying policy issues that undergo rapid changes and involve complex networks of actors. Assemblage ethnography does not prescribe specific methods or techniques, but rather provides a rationale for following different actors and institutions while paying attention to the boundaries that separate them and the assemblages and hybrid associations that they enact. This served as a fruitful alternative for site-based ethnographic research, given the added challenges of carrying out such work in emergency settings (Brown and Kelly 2014).

The material was gathered between June 2013 and July 2016, consisting of pandemic policies, strategies and protocols, as well as interviews with policy experts from three different countries—Finland, Spain, and the United Kingdom—and from two international organizations—the European Union (EU) and the WHO. The institutional material was complemented with a six-week ethnography in a WHO Country Office located in the Eastern Mediterranean Region and with the attendance at the Biological Weapons Convention State Party Meeting of 2015, in Geneva (Switzerland).

For this article, we have focused on the part of the material that discussed the international response to the 2014 Ebola outbreak in West Africa. In order to better illustrate the analyzed dynamics, we have expanded the material with the analysis of a specific controversy, namely the aeromedical evacuation (AME) of Ebola patients from West Africa to Spain and the subsequent infection of a member of healthcare staff in Madrid who tended to the repatriated individuals. In our analysis, we read the gathered material with an eye on the emerging inequalities associated with the constantly evolving positioning of actors in relation to the Ebola crisis and the threat it poses to the health of individuals and populations.

The material was thematically analyzed, with a focus on how the main themes were related to the way different life forms became productively identified, categorized, and governed. Special attention was paid to categories that hinted at emergent marginalizations in pandemic preparedness and response, despite

them not standing out quantitatively or not being central to the dominant scientific and policy discourses. This analytical strategy fits with our conceptualization of positions that manage to emerge in the margins of dominant discourses as relevant, producing noise, and calling for a closer analysis. This principle has guided the selection of the empirical examples that we discuss below from the perspective of more-than-human intersectionality.

More-than-Human Inequalities During the Ebola Crisis

In this section, using the analyzed material, we put together a collage of situations where more-than-human categorizations—that is, categories shared between humans and nonhumans—have a direct impact on the measures and responses put in place by health authorities and the experiences of those affected by the virus (the main but not only nonhuman in this collage). Throughout the combination of three vignettes, we illustrate how different actors—from regions to nations; from humans to animals—become threatening or worthy of protection in the international framing of the outbreak as a global health emergency, as a result of their actual or virtual association with the virus, which in turn interacts with their social positioning.

The first vignette depicts how categorizing the biological threat as urban or rural has an impact on the activation of an international response and the subsequent access of different populations to care and protection. The limited access to healthcare that characterizes West Africa is here exacerbated by rurality and its specific material-spatial features. While, upon spread, the effect of the virus on African urban populations and the rare emergence of cases in the global north activate international response, African rural populations are forced to deal with an outbreak that receives minimum support, mostly from humanitarian aid workers.

The second vignette compares two sociotechnical devices that nonetheless invoke similar notions of health and disease with very different consequences: a) an airport protocol used for screening travelers attempting to leave West Africa; and b) an AME protocol designed by the Spanish government to repatriate nationals from outbreak areas. These examples illustrate how categorizations that interact with social distinctions such as nationality, race, and North/South-divisions play a key role in becoming a threat to global health or worthy of protection.

The third vignette discusses the case of a Spanish nursing assistant who contracted Ebola after caring for a repatriated missionary. This contagion led to the public blaming of the assistant from Spanish public health representatives and the decision of killing her dog as a preventive measure. By specifically highlighting categorizations that enact gendered as well as speciesist distinctions, this third vignette adds another illustrating layer to how intersecting social positionings come to matter in the response by health authorities.

Combined, these three interrelated vignettes show the discursive and material impact of global health implementations at the local level, while, at the same time, they illustrate how more-than-human categorizations travel across global landscapes.

Rural Isolation, Urban Threats and the Activation of International Response

The relevance of local epidemics for global health is in their ability to spread and become international emergencies. Hence, pandemic governance often has a strong focus on spatial control: if the viral spread can be geographically contained, it can be controlled and thus defeated. In the analyzed material

this became particularly evident in how international efforts grow as an outbreak moves from remote, poorly connected areas to more densely populated spaces like cities. This intra-action (Barad 2007), i.e., constant mutation in both meanings and effectiveness, of the virus with different geographical spaces and their populations is key in determining how different actors are categorized, and consequently governed, as threatening. In other words, different levels of threat become inscribed or coded into different territories, which makes evident the relevance of thinking in terms of intensities and tipping points (Hinchliffe et al. 2013). These levels of threat come to characterize not only the territory but also the human and nonhuman actors that populate it as part of material engagements of proximity, or what Brown and Kelly (2014) have called "hotspots."

Our study case provides an illustrative example of those spatially situated dynamics. Ebola outbreaks have historically been restricted mainly to rural areas, as their high lethality has prevented them from escaping their area of emergence. This means that outbreaks used to be self-contained, since rurality acted as natural countermeasure of sorts. In 2014, this changed as Ebola trespassed its traditionally isolated rural limits. The 2014 outbreak emerged in a different region and at the junction of the borders between Guinea, Liberia and Sierra Leone, an area that sees people moving across porous borders (Médecins Sans Frontières 2015). As the excerpt below illustrates, the location of this outbreak meant the virus easily arrived at cities:

> So, when it's confirmed that it's Ebola, everybody was [. . .] surprised because Ebola had never been in that region, [. . .] the issue was dealt with normally [in] a remote place, [. . .] village, or whatever hospital in a remote area, and it's contained by geography already—no people go in, no people go out, by nature, not that they are isolated, but it will die out sometime. I mean it's hundreds of cases maximum. But now it's different: it went to cities, then it [boarded] planes. (WHO epidemiologist, personal interview, January 26, 2016)

The excerpt above illuminates the centrality of numbers in the shift from a self-contained epidemic into an urban threat of international concern. In the case of West Africa, densely populated cities offer a threatening springboard that starts to affect the rest of the globe.

The excerpt below, in turn, is from a European Commission memo in 2014 that informed about the EU's response to Ebola. In the memo rurality is presented as a barrier that not only allows for the containment of the outbreak but also prevents the response personnel from intervening in the source of the outbreak:

> Limited access to some areas in the affected countries also complicates the registration and isolation of patients. Lack of medical equipment to isolate patients and protect medical staff presents a further challenge. The disease has already claimed the lives of more than 120 health workers. (European Commission 2014, 2)

As this example shows, the geographical location and the materiality of the landscape allows for coding rural areas as threatening, due to the fact that response cannot easily reach those areas. A concern for the safety of health workers provides a justification for limited intervention in difficult to reach areas impacted by the virus.

This is not to say that there is no response in front of rural outbreaks. There is an important volume of humanitarian aid that was mobilized in the 2014 West African outbreak prior to the declaration of an international emergency, as well as in previous more isolated outbreaks. What should however be noted is the change that occurs in the international response of the global health sector (including actors like WHO and the United Nations) when the outbreak becomes a PHEIC, a label that WHO only used once cases emerged outside Africa, in Europe and the US (Médecins Sans Frontières 2015). Through contagion, cities and urban populations turn first into threatened and then threatening objects with the ability to spread beyond the region. Containment is no longer natural and left to humanitarian aid actors. Saving the lives of thousands of West Africans becomes an issue for the global health community as they become threatening to the global north, mobilizing a series of economic, technical, and human resources to compensate for the lack of natural containment and the overburdened humanitarian workers.

The impact of this mode of categorizing the threat exceeds its declaration as an international concern and the subsequent activation of a global response. The association of the virus with rural or urban populations—and its resulting identification as an international threat—has a direct impact on those populations and their access to care. African populations, as we will continue to argue in the following section, are already specifically vulnerable in the context of global health, with the highest rates of mortality associated with infectious diseases and the lowest rates of access to universal healthcare (World Health Organization 2019). This vulnerability is further exacerbated when it intersects with the rurality of some populations whose access to healthcare is even more restricted (Yao, Murray, and Agadjanian 2013). Their being affected is not enough to activate the global health apparatus of international response that allows an increased influx of foreign support to tackle the rural outbreak. Rather, isolated epidemics in rural areas, as well as the populations that inhabit them, receive a much more limited form of support, mostly coming from humanitarian actors and non-governmental organizations. Urban populations, on the other hand, while also occupying a marginalized space in the general context of global health, are able to activate a level of international support that in this case does not reach its full force until the threat becomes evident in the Global North. This increased support contributes to diminishing the impact of the outbreak, but actually focuses specifically on its containment.

Airports, International Travel, and Access to Care

As already mentioned, urban outbreaks trigger the formulation of new priorities: keeping the outbreak from spreading internationally by mobilizing biomedical protocols that attempt to hinder and regulate international travel. Such protocols are prominently enacted in airports,[1] which become doors to the global. Having control over who (and what) travels becomes one of the main tools in keeping the threat contained.

In the airport, travelers become categorized as threatening or not through sociotechnical devices that function in two ways: first, they allow for the individual categorization of travelers and the consequent

[1] Although the spread of infectious disease can take place by means other than flights, airports remain especially relevant because of the speed and ease of travel they afford (Tatem, Rogers, and Hay 2006).

governance measures, i.e., denial of traveling rights, and second, movements in the airport are organized according to how close to accessing the global space the traveler (and potentially the virus) is, i.e. their proximity to the boarding gate. For instance, in the airports of Guinea, Liberia, and Sierra Leone, a five-step approach is enacted to filter out potentially threatening individuals in an effort to obstruct their entry into the global space:[2]

1. On arrival at the airport, travelers, staff, and friends and relatives not traveling wash their hands in chlorine solution and have their body temperature measured with handheld infrared thermometers. People in vehicles must step out to be tested. If their temperature is above the limit, entrance to the airport is denied.
2. At the terminal, friends and relatives are not allowed. A hand wash and temperature routine is repeated for travelers and staff. Prospective passengers must fill in a Health Declaration Form (HDF). If the temperature is above limit, terminal entrance is denied.
3. Before check-in, primary screening is performed by trained healthcare workers. Body temperature is measured, signs of illness assessed, HDF reviewed, and follow-up questions asked.
    a. If the temperature is above limit, the prospective traveler is escorted to secondary screening.
    b. If the HDF is missing data, the relevant items need to be added. Also, filled-in information is confirmed verbally. The HDF is archived or given back to the passenger (depending on the airport).
    c. Ebola information sheet is given to the passenger.
4. At the check-in desk, airline staff check travelers' temperature, which is then recorded on a sticker attached to the passport or noted on the HDF (if the patient still has it).
5. At the boarding gate, their temperature is measured again. If it is above the established limit, the would-be passenger is denied boarding and escorted to secondary screening.

This example illustrates how access to the international air space is regulated through medical screenings and the registration of medical data. The five-step procedure displays an apparatus of medical knowledge, government rules, healthcare workers, measurement technologies, standardized forms, case definitions, and physical distribution of objects designed to contain the spread of Ebola. Along with physical objects such as chlorine solution, thermometers, and stickers, all of these elements actively participate in the enactment of threat, which has severe consequences for the affected populations. Airport space also significantly participates in this due to their acting as obligatory passage points (Callon 1984) with the potential of diagnosing specific groups of people with potential to become internationally threatening and thereby restricting the mobility of humans and the nonhuman viruses potentially accompanying them.

[2] This is a summary of a protocol featured in an EU/WHO review mission report of 2014 that reviewed the protocols being used in the main airports of Guinea, Liberia, and Sierra Leone has been archived as supplemental data on STS Infrastructures (Pletschette 2014).

An examination of repatriation practices from affected areas reveals a contrasting protocol oriented toward evacuating individuals rather than obstructing their exit. We use an AME protocol by the Spanish Ministries of Health, and Defense (Ministerio de Sanidad, Servicios Sociales e Igualdad, and Ministerio de Defensa 2014) to illustrate this practice. While airports are organized as to gradually narrow access to international space only for those able to prove themselves healthy before the deployed biomedical apparatus, the AME protocol is designed to narrow down access and passage through international air space only for individuals with confirmed exposure and a specific nationality.[3] All this is supported by a considerable number of resources that enable transport and care of the patient. For example, the protocol mobilizes a medical team specialized in handling patients with infectious diseases and trained in infection prevention and control practices; a spacious, sound-insulated and fast aircraft; a flight crew that has received training in the correct use of personal protective equipment (PPE) and the areas of the air ambulance; an "observer" responsible for overseeing others' movements at all times; and a complex system for the boarding, disembarking, and hospital transportation of the patient and the generated waste. In sum, private transport, biosafety and biosecurity isolation technologies, and specialized personnel are made available under this protocol for securing travelling for the citizens in ways that highlight the more-than-human sociality that characterizes the intra-actions between humans, viruses, and medical technologies (Mills 2017). Here, however, individuals categorized as diseased become objects of protection rather than threat. Their nationality comes to matter through the mobilization of resources that guarantees their leaving the affected area rather than making it impossible.

The example above evidences a clear discrimination in the application of travel regulations based on citizenship which, in turn, has historically stood as a racialization practice (Fitzgerald 2017), providing another example of the intersectionalities that potentially come into play in outbreak response. Furthermore, the practices analyzed in this section align with the frames typical of Western humanitarian aids, which has the regulation of movement during humanitarian crises as one of its functions. Travel regulations during active pandemic threats enact post-colonial hierarchies in humanitarian intervention, making visible the difference in value between those who are the actors of humanitarian intervention and those who are its objects (for example, see Fassin 2007).

In this context, more-than-human categorizations are also effective: the movements of hybrid assemblages of human bodies and the virus are territorialized (Deleuze and Guattari 1987) in practices that make borders more or less impassable on the basis of an individual's nationality and the resources attached to it. The inequalities at play are further exacerbated by the fact that, as we will show in the following section, the enabling of citizens with access to AME protocols to leave the outbreak (and threatening) regions despite having a clear diagnosis entails the risk of international spread that the airport protocol was trying to avoid at the cost of possibly isolating local populations. These dynamics reiterate post-colonial patterns in access to health. As it has been argued, global health as a notion and a practice enacts by definition the inequalities

[3] In our article, we specifically focus on a Spanish case, but literature we reviewed showed clear AME patterns whereby repatriation takes place from South to North (e.g., Gibbs et al. 2019; Manet et al. 2018; Nicol et al. 2019).

and poverty that justify the measures directed at it, making Global North-South health partnerships unequal (Crane 2010). The examples provided support this argument by illustrating the marginalization and vulnerabilities at play in the design of technical protocols to deal with epidemic outbreaks.

Gendered Stigmatization and Interspecies Contact Tracing

After exploring the contrast between those left behind and those able to access treatment in improved conditions, we follow our commitment to a more-than-human intersectional analysis by exploring an example where two more actors appear in positions of specific vulnerability as a consequence of the decision to repatriate: a nursing assistant and her dog. During August 2014, Spain repatriated two missionaries from Liberia: Miguel Pajares who would die of Ebola days later—and Juliana Bonoha—whose Ebola diagnosis was negative. On September 20, 2014, Spain conducted a third repatriation, that of missionary Manuel García Viejo, from Sierra Leone, who died of Ebola five days later. However, the impact of that repatriation extended well beyond those five days on Spanish soil. During the care of the missionary, a nursing assistant, Teresa Romero, was inadvertently infected with Ebola. Her contagion exemplifies the heightened risk of epidemic-prone diseases among healthcare staff. This is a collective that predominantly consists of women, which significantly contributes to gendered patterns in vulnerability to infectious diseases (World Health Organization 2007).

The gendered associated risks and the particular vulnerability of women has been especially relevant in the case of the Ebola outbreak in West Africa. This has generally manifested through a higher number of cases, contacts and fatalities among women, and their role in preparing funerary rituals (Davies and Bennett 2016; Fawole et al. 2016), a more pronounced disruption of their ability to earn a livelihood or access healthcare due to disturbances provoked by the outbreak (Davies and Bennett 2016), and an exacerbated exposure to gender-based violence and sexual exploitation (Onyango et al. 2019). Female healthcare workers also have less access to protective gear in comparison to male doctors and other high-ranking hospital personnel (Fawole et al. 2016). It is important to note that the role of women in Ebola is not exclusively articulated in terms of vulnerability, given that they are also first-line responders (ibid.). A key issue is that despite this major role played by women in global health crises, their role remains conspicuously invisible, which offers little to no chance for a gender-informed policy and response in front of emergencies like the 2014 Ebola outbreak (Harman 2016). Existing pandemic policies have not sufficiently highlighted and considered "the free, supposedly elastic work of women that underpins health systems through social and primary health care roles." (ibid., 536). These are dynamics that continue to be present in recent crises like the ongoing Covid-19 pandemic (John et al. 2020).

Our case has echoes of similar dynamics in the spread of Ebola outside the West African region. Far from recognizing the risk and relevance associated with Romero's role, her vulnerability as a woman and a care professional was further exacerbated by the way the representatives of the local public health authorities of Madrid mobilized discourses of blame and responsibility. The regional Minister of Health of the Community in Madrid, Javier Rodríguez, was quick to put blame on Romero, which was followed by a media controversy with almost all relevant Spanish newspapers and TV channels speculating on who was to blame for the spread and on Romero's actions in the days that surrounded her contagion and diagnosis. While an investigation of the mode of contagion would have helped to pacify the situation, this investigation was hindered, because the part of the protocol asserting that an observer is always present when putting on

and off any PPE had not been followed. Thus, the main hypothesis argued by public health authorities regarding the reason for the contagion—a mistake by the nursing assistant when taking off the PPE after having accessed the missionary's isolated room—was not verifiable. This did not keep Rodríguez from offering statements on television programs that explicitly blamed Romero for having been exposed to the virus.[4] Despite lack of evidence, instead of recognizing the risks associated with the position of a nursing assistant during an Ebola outbreak, Romero became a threat because of her purported incompetence in following protocols, while such ability was never questioned in the two repatriated missionaries with Ebola, whose statuses as men in respectable social, classed positions arguably effectively insulated them from such accusations.

With the confirmation of the first Ebola case transmitted within Spanish territory, the protocol to trace all contacts was activated. Two hundred and thirty two contacts were traced and monitored (Ministerio de Sanidad, Servicios Sociales e Igualdad 2016), with the most direct contacts, including Romero's husband, quarantined in hospital premises. Furthermore, although not part of any protocol, health authorities made the controversial decision to kill Romero's dog, Excálibur, who had been trapped at their residence since the case was confirmed. The decision was heavily contested by some veterinary associations and a considerable number of international veterinary experts (Zaldívar Laguía 2014a, 2014b). The protocol followed in killing the dog was designed and carried out by VISAVET (Animal Health Surveillance Centre) in Madrid (Guindos et al. 2015). Excálibur became an unbearable risk for the administration not because of its direct association with the virus, but because of how he is co-constituted as a threat together with his owner. The distributed more-than-human character of the categorization of threatening actors is thus traceable in the process of Romero becoming a threat that extends to her nonhuman companion. Some of the main justifications for the decision manifest a clear inclination towards killing Excálibur despite lack of evidence to support it. First, in facing the lack of protocol to deal with such a situation, public authorities decided to design one to kill the animal, instead of adopting internationally available protocols—such as one used in the US to handle a similar case around the same time—or developing a protocol to investigate and monitor instead of a protocol to kill. Second, decision-making relied heavily on a non-conclusive article that found some Ebola antibodies in dogs in 2005 but offered no evidence of their capacity for infection (Allela et al. 2005).

By shedding light on the fates of individual human and nonhuman actors, this example suggests the importance of attending to how further social positionings such as those based on gender and species become relevant during outbreaks. Furthermore, the case illustrates the co-operation of discursive and material dimensions in the evolving of specific vulnerabilities, as the discourses of blame and those that justify the ending of a life intra-act with the material impact of the virus.

[4] Official discourse was only rectified by the central government in front of public controversies and demonstrations of support.

Conclusions

In our analysis, we illustrated both the movement and fixity related to becoming a threat or worthy of protection in the context of a pandemic, and how this relates to social, inequalizing categorizations and positionings that are enacted in the interplay of material and social, human, and nonhuman forces. Our analysis illustrated how social positionings and categorizations based, for instance, on region, nationality, gender, and species become significant in international governance practices. While the status of threat is undeniably applied to viruses, it is important to focus on what actors, through distributed categorization, come to have the same status too. In terms of governance, we have paid attention to how some actors, when becoming threat with the virus, are the target of actions aiming to neutralize the threat and/or receive protection and care because of their social positionings. We do not claim to provide an exhaustive analysis of the mattering of these distinctions, nor do we claim that these would be the only significant ones, in the case of Ebola or other health emergencies, but rather have aimed to provide various glimpses into the dynamics of inequality that extend from larger regions and their populations into the fates of individual actors. We hope these glimpses inspire further delving into these issues, which become central as we face recent outbreaks such as the Covid-19 pandemic, where partially similar yet unique patterns are at play. These include issues such as vaccine disparity (Grohskopf, Liburd, and Redfield 2020; Warren et al. 2020), the success of global pushes for preparedness regulation (Cañada, Sariola, and Butcher 2020), and the impact on animals and their health (Frutos and Devaux 2020; Górtazar and de la Fuente 2020).

Our analysis proves the usefulness of the more-than-human intersectional approach that we formulated in the beginning of the article, something that can be summarized in three points: a) it broadens the scope of inquiry beyond a restricted focus on humans as agentic and central in pandemics; b) it shows the artificiality of boundaries that separate the differentially categorized assemblages, specifically in terms of worthiness for protection; and c) it emphasizes inequalities that overlap and reinforce each other in the materialization of a pandemic. We also draw two more concrete conclusions on the basis of our vignettes and discussion above that make a twofold contribution: to theorization on more-than-human approaches and intersectionality, on the one hand, and to the understanding of pandemic governance in general and international responses to global health emergencies, on the other.

First, in line with the growing body of work that aims to bring intersectionality and more-than-human thinking into dialogue, we claim that a more-than-human intersectional approach is useful for better understanding the role played by social positionings and categorization processes, and the emerging inequalities, in socio-material entanglements, such as those that characterize outbreak response. Our study contributes to developing this approach by extending its use into the analysis of new types of animacies, namely, those linked to medical technologies and viruses, specifically regarding the spreading capacities of the latter and its ability to motivate specific paths for outbreak response that intersect with social positionings and subsequent dynamics of marginalization and oppression. Outbreaks are well suited contexts for analyses from this perspective, because, as we have attempted to show in this paper, their analysis exposes the artificiality of boundaries between humans as subjects and nonhumans as objects by highlighting the vulnerability of humans to the virus infiltrating their bodies, and thus undermining any notions of immunity to such nonhuman affect. However, the uneven distribution of this vulnerability needs to be simultaneously acknowledged, and how this is conditioned by various, intersecting social and material positionings. The combined approach suggested in this paper allows for tapping into both of these dynamics.

Our second conclusion is based on the claim that the approach advocated in this paper is beneficial for the development and understanding of practices around outbreak response. While preparedness policymaking tends to ignore the social and political dimension of emerging pandemic threats (David and Le Dévédec 2019), we propose that attending to non-dominant positions, knowledges, and experiences that are often overlooked (or, at worst, marginalized) should become a key aspect in tackling infectious diseases. Attuning towards these perspectives, voices, and experiences, and incorporating them in pandemic policymaking has the potential to assist the material implementation of interventions in situations of emergency, and in ways that extend the scope and effectiveness of protection. Doing this also contributes to provide critical insight on how that protection is provided unevenly among different actors that are, as we have formulated in this article, differently positioned in various hierarchies of worth. This helps to highlight the social and political lives of zoonotic spread (Leach and Scoones 2013) by illustrating how intersectional categorizations condition the micro-practices that characterize the work of decision-makers and first responders. As David Cohn and Rebecca Lynch (2017, 286) have argued, looking at the nonhuman element in public health helps to "re-imagine and re-problematize [. . .] by both foregrounding things not normally attended to and by questioning those that might be taken for granted." We thereby wish to conclude by extending an invitation both for scholars and practitioners to re-imagine and re-problematize outbreak response and global health as more inclusive projects that go beyond the fantasy of control and prediction that often features pandemic governance, and instead, aim to take notice of the emerging inequalities and the ways they come to matter in the unfolding of pandemics.

Acknowledgements

We would like to thank the members of the Cultures of Cultures seminar for their comments on this manuscript. This work was supported by the [Kone foundation]; and [Academy of Finland] under grants [number 318730] and [324322].

Author Biographies

Jose A. Cañada is a MSCA Research Fellow at the University of Exeter who is interested in questions of more-than-human health, identity and ethics, areas that they have approached in areas like pandemic preparedness, AMR, biobanking and, most recently, marine conservation.

Satu Venäläinen is a postdoctoral researcher at the University of Helsinki, and she is interested in intersectional inequalities and the associated discourses, affects and identities, approached from a multidisciplinary perspective drawing specifically on social psychology and gender studies.

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