

# Securing Epidemic Ecologies

## Spaces of Disease Control in Historical Perspective



*Conference as part of the SFB/TRR “Dynamics of Security” organized by Carolin Mezes, Sven Opitz and Andrea Wiegeshoff, to be held 10-12 December 2020 at Philipps University Marburg*

As a vast array of interdisciplinary literature has demonstrated, matters of global health have become the target of intense securitization over the last decades. Cultural theorists have traced the new threat-imaginaries of contagion (e.g. Priscilla Wald). Political anthropologists have unearthed the preparedness protocols of vital system security (e.g. Andrew Lakoff). Sociologists have focussed on the organizational intricacies of pandemic surveillance systems (e.g. Lorna Weir and Eric Mykhalovskiy). Legal scholars have delineated the contours of health security laws (e.g. David Fidler). Political scientists have highlighted new institutional forms of disease diplomacy and biosecurity (e.g. Stefan Elbe). Within this upsurge in studies on the relation between health and security, however, the spatial aspect - while, of course, never fully neglected - received relatively little attention. This is not only surprising due to the close link between the control of diseases and spaces throughout history. Rather, it can be argued that a transformation of the spatial ontology of disease has been at the core of the recent securitization of global health.

In his article “Infectious History” published in *Science* in 2000, the molecular biologist and Nobel Prize winner Joshua Lederberg demanded a “re-examination of our cohabitation with microbes” and prompted researchers to focus on “the microbial ecology of our own bodies”. In fact, such a decidedly ecological vision of disease is closely tied to the paradigm of so-called Emerging Infectious Diseases that animated security concerns about global health since the 1990s. Changed patterns in land use and intimate encounters with animal hosts implied a modification of a strictly bacteriological model, associating the emergence of pandemic disease with environmental disturbance. Today, this transformation of the spatial ontology of disease can be detected in different contexts and various shapes: The concept of the Anthropocene has pushed scholars to conceive of human health in terms of “planetary health” to include the climate, the quality of the soil or the composition of the air. Concepts of “ecosystem security” include a concern for the effects of *Vibrio cholerae* and *E. coli* bacteria travelling over long distances in the ballast tanks of large container ships. Individual health is seen to depend on the well-being of vital microbial communities, whereas the anti-biotic techniques of the bacteriological age have generated drug-resistant microbes that occur not only in hospitals but also agricultural fields and lakes (cf. Hannah Landecker). All these problems indicate that disease is increasingly placed within an ecological spatial framework.

Our interdisciplinary conference wants to explore the historically shifting relationship between the spatial ontology of disease and disease control ranging from the 18th to the 21st century.

Thus, we seek to complement recent approaches in the environmental humanities and political ecology. For historians, and for scholars in medical history in particular, the modernist bacteriological vision of bodies and spaces of contagion has only been a short interlude - and one that was never as conceptually “pure” or “one-dimensional” as it is sometimes assumed. Environmental models of health and disease abound throughout history. They range from the atmospheric approaches in the hippocratic tradition of “Airs, Waters, Places” (Charles Rosenberg) and early modern concepts of the “circumfusa” (Jean-Baptiste Fressoz) to ideas of disease-inducing miasmas highly influential throughout the 19th century and concepts of contagion linked to environmental factors. In the 20th century, ecological explanations prevailed in tropical medicine (e.g. Warwick Anderson) as well as in early attempts to link health issues to the large scale application of chemical pesticides in agriculture (e.g. Linda Nash). As public health officials associate the spread of disease vectors transmitting Dengue, West Nile or Zika with man-made changes in the environment, historical research has shown similar dynamics in colonial plantation economies (e.g. John R. McNeill). Historians have made a strong case for examining the relationship between changes in social and natural ecologies, imperial expansion and the spread of diseases (e.g. Mark Harrison).

Hence, the current spatial ontology of disease is far from being unprecedented, and neither are the governmental disease control measures, devices and techniques that correspond with this concept. To capture their specificity and genealogy, we will position them within a historical perspective, interweaving the threads that may give rise to a more nuanced and historically informed understanding of the present. Thus, the conference seeks to address two interrelated questions:

- What *spatial heuristics* have been mobilized to conceive of the spread of disease (such as the urban milieu, the “tropics” or “hot climates”, borders, chains of contact, the plantation, mobility networks, planetary ecologies and the atmosphere)?
- And what *repertoire of spatial technologies* has been deployed to counter epidemic threats (such as containment facilities, control checks at infrastructural nodal points, mapping techniques, environmental sensors, measures for ecosystem engineering and probiota)?

Dealing with both questions will help to provide a historical in-depth account of the spatial framework for health security. We welcome contributions from all relevant disciplines, such as history, sociology, anthropology, geographic or cultural studies, along the following lines of inquiry:

### *(I) Diseased spaces and spaces of disease*

Which ways of registering, knowing and explaining disease outbreaks developed around health crises? How did epistemic apparatuses detect and made sense of spreading diseases in spatial terms? What kind of epistemic objects and devices made them intelligible? Measures such as disease mapping, health metrics or modes of predictive modelling (e.g. circulation, waves, networks) constituted spatialized approaches to epidemiological problems. Analyzing them

gives us insight into what was perceived as the main referent object of an epidemiological threat and how it was rendered visible. Historically shifting ways of framing certain aspects as an issue of health security point to rival perceptions of and conflicts over evaluating the links between specific places, situations and people (on “disease situations” Steve Hinchliffe et al.). Different layers of moral (de-)valuation shaped cartographies of infection - some regions were deemed “unhealthy” or “diseased”; certain types of border crossings were seen as dangerous; specific groups were blamed for introducing diseases (cf. Alison Bashford). In fact, geography, criteria of race, class and gender as well as, for instance, climate were seen as closely intertwined in the processes of (re-)negotiating spaces and boundaries during epidemiological crises. How have these practices changed in relation to spatial ontologies of disease that (re-)enforce ecological and topological configurations? How do “spaces of disease” such as the soil (toxins), the “cold chain” (food-borne diseases), health infrastructures (antimicrobial resistance) or the microbiome (“dysbiosis”) relate to environmental predecessors?

## *(2) Controlling space and controlling through space*

Historically, managing the spread of disease has been tied up with multiple modes of reckoning with space. Quarantine, travel bans, border screenings but also more recent techniques such as digital epidemiology, health surveillance systems or the deployment of drones and satellites (cf. Robert Peckham et al.) problematized and (re-)constituted space. They could imply spatial measures targeting moving and movable bodies (people as well as food products, insects, waste and economic goods), but could also include attempts at changing the space itself, for instance through sanitary, architectural and environmental measures. To address such modes of control, we suggest understanding space as the result of relational encounters and social practices. Disease control revolved around bringing together or cutting off certain locations, forging or prohibiting connections between places and bodies, enabling or disabling circulation and movement. A focus on practices of disease control can highlight the complex relations between transmission media that allow for epidemic contact across geographic distances and spatial interventions into the very processes of transmission. Thus, we may gain new perspectives on how the global, the empire or the national territory have been constituted by and during epidemic crises. We further seek to understand how topographical spaces of disease control are co-constituted through topological renderings of disease, for instance in administrative media such as certificates, lists or evaluation schemes.

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