Geoforum 53 (2014) 136–144

Contents lists available at ScienceDirect

Geoforum

journal homepage: www.elsevier.com/locate/geoforum

Geographies of folded life: How immunity reframes biosecurity

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ARTICLE INFO

Article history:
Received 13 June 2013
Received in revised form 3 March 2014
Available online 2 April 2014

Keywords:
Biosecurity
Biopolitics
Immunity
Food security
Disease
Space

ABSTRACT

Biosecurity, in broad terms, aims to reduce the impact and incidence of threats to life through regulatory means. For reasons we raise in this paper, such regulation can often lead to the specification of disease free processes within the food and farming industry, with biosecurity success measured in terms of the degree of compliance with and allegiance to modern farming practice. We counter this progressive narrative in three ways. First we draw on UK-based qualitative fieldwork with vets, farmers and pigs to demonstrate how biosecure farming and disease freedom are translated and qualified, in practice, to pathogen free, pathogen management and ultimately to configuring health through immunity management. Second, these translations demonstrate how building health is dependent on spatial and microbiological diversity rather than uniformity. Crucially, health involves patch-*work* and situated knowledge practices that are under threat within an industry increasingly marked by control and homogeneity. Third, in conceptual terms, we argue that while pig farming is organised through both biosecurity and a biopolitical regulation of life, immunity opens up political space for exploring an alternative politics of life, one where farmers and others are not so much made responsible for disease prevention, but make valued contributions to understandings of animal health and food security.

1. Introduction

Over recent years the issue of animal health, and in particular, farm animal health, has taken on a new urgency. The escalating costs of epizootic diseases have become key features of policy reform and debate. In the UK, infectious diseases like Foot and Mouth Disease (FMD) and Bovine Tuberculosis (BTB) have acted as a drain on national and agricultural resource to say nothing of the social and environmental costs of control and containment strategies (Convery et al., 2008). Further, there are also emerging and re-emerging zoonotic diseases that cross from nonhuman animals to people and have potential, at least, to reach pandemic proportions.

The response to these growing costs and potential threats is often framed, at least in government departments concerned with farming and food, in terms of biosecurity, something that has come to be defined as "the protection of production systems from the threats caused by pests, pathogens and diseases" (Ilbery, 2012: 310). Policy-makers have focused on how to develop enough uptake of on-farm biosecure practices in order to reduce disease threats (Simmons, 2012). Following suite, a good deal of social science work has sought to explain lack of uptake through engaging with the 'local' and practical rationalities that can undermine acceptance of biosecurity messages and measures (Enticott et al., 2012).

In this paper, we are similarly interested in policy in practice but our aim is slightly different. Instead of accounting for how and why practitioners tend to fail in terms of their adoption, implementation and consistent use of biosecurity measures, we use detailed and in-depth engagements with food and farming practices to demonstrate how biosecurity, or what we call the making of safe life, is constituted through an ability to work with rather than against a complex microbial environment. Drawing on qualitative fieldwork with pig farmers, breeders, vets and others, we demonstrate how material pathological relations are often carefully staged in order to generate immunological preparedness, folding macro and micro-biotic lives together in order to condition life and make it healthy. This staging is skilled and situated, and involves a set of practices that are obscured and even endangered when biosecurity is reduced to the simple protection of disease-free livestock. As such, these situated knowledge practices are not so much extensions of policy, power or another iteration of an increasingly granular biopolitics; rather they highlight the dangers of agricultural uniformity and homogenisation and can provide the basis for a counter-narrative to currently dominant accounts of biosecurity.

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http://dx.doi.org/10.1016/j.geoforum.2014.03.002
0016-7185/

Our focus is on pigs and pig farming, for two main reasons. First, pigs are well known to be the domestic species most likely to act as a mixing vessel or intermediary step for pandemic and in particular influenza diseases. They are a key species at the human/animal interface (Smith et al., 2009). Second, the level of understanding of disease and the ability to control inputs make the pig sector exemplary, it is often said, of controlled animal agriculture. This is matched by a tendency for pig farming in the UK (and elsewhere) to adopt an industrial model of intensive production, where inputs, exchanges and movements of pigs can be tightly regulated. Given this exemplary status, pigs can act as a test case for the contention that biosecurity is in practice more than an exclusion of pathogens.

After providing an overview of biosecurity, we briefly describe pig farming in the UK and introduce the methodology. The middle section of the paper uses empirical work on the translations that are involved in making biosecurity, noting how disease-free farming is qualified in practice. In the final section of the paper we focus on immunity in order to suggest the value of those situated practices to a politics of life that is distinct from an extension of a regulatory biopolitics.

2. Securing life – biosecurity tensions

In relation to fears of microbial threats in a mobile world of rapid environmental and social change (Collier and Lakoff, 2008b), biosecurity is framed in two key ways. First, there is the generic issue of securitization including the relationship of security and liberalism or neo-liberalism, and second a pathogen-based and precautionary approach to infectious disease risk. Together, these frames provide major spatial tensions, which we highlight below.

First, securitisation implies a selective or regulatory approach to governing society (Foucault, 2008). As Lentzos and Rose put it, securitization involves investment in "border controls, regimes of surveillance and monitoring, novel forms of individuation and identification, notably those based on biometrics, preventive detention or exclusion of those thought to pose significant risks, massive investment in the security apparatus and much more" (Lentzos and Rose, 2009: 231). Security in this view depends on technologies of sorting, categorising and importantly allowing some things and people to circulate while rendering others as detainees or bodies to be ex-communicated. The exact interplay of this bordering, surveillance, detention and so on, Lentzos and Rose suggest, is reconciled in a variety of ways. Indeed there are histories and geographies to this in terms of state proclivities and tendencies, but in the last instance the practices are shot through with "the two fundamental imperatives for those who would govern a liberal society today – the imperative of freedom and the imperative of security" (Lentzos and Rose, 2009: 232).

The imperatives of freedom and security are characteristic of what many authors see as liberal or neoliberal approaches to governance. Key here is the rise of a form of biopolitical governance wherein lives are categorised, valued and managed in large part through their relation to a risk pool or population, and a consideration of the material processes that make that population more or less risky. As such, a population is made up of and is continually affected by the expanding space of circulations within which it exists (Foucault, 2007; Dillon and Lobo-Guerrero, 2008). Indeed, securing circulation without impeding expansion becomes a key characteristic of liberal security with the result that circulation becomes the paradigmatic space for biopolitics (Foucault, 2007). Moreover, as the complexities and intensities of those circulations become ever more manifest in increasingly globalised societies, the centrifugal re-distribution of responsibility, beyond states and towards civil society, becomes a major concern. In the UK, attempts to increase farmer responsibility for disease prevention and to share the costs of disease amelioration with the private sector seem to confirm this diagnostic (Donaldson, 2008). A final twist in this tale or a consequence of this tendency surrounds a shift in focus from prevention of well-known threats or enemies to preparedness for as yet under-specified emergent threats (Collier and Lakoff, 2008a). This extension to indeterminate threats is often read as a 'grasping of reality' in all its variation as a means to manage in conditions of complexity (Foucault, 2007; Lentzos and Rose, 2009). For authors like Cooper (Cooper, 2006), the non-innocent adoption of emergent ontologies coexists with an ideological tendency to govern through fear, sanctioning new kinds of marketised interventions and distributed responsibilities in the name of speculative threats. Biosecurity becomes, then, part of a disaster capitalism that can provide new market opportunities and the circumscribed responsibilization of action.

If the tensions between freedom and security already start to suggest the spatial tensions of biosecurity, these are overlain by the second key element, a pathogen based and precautionary approach to infectious disease and risk. Here, biosecurity equates with a desire to pursue a *freedom from* disease. As such, the spaces of circulation that Foucault emphasised are in tension with territorial expressions (like zoning) and inside/outside dichotomies which are arguably centripetal in their focus on control (Hinchliffe et al., 2013). The result is a tendency to understand biosecurity as a matter of constructing and then protecting a system of spaces wherein disease is kept out. So, for example, Enticott et al. note that, in UK government terms, biosecurity is concerned with "the incursion of infectious disease or disease vectors and their impact on farmed animals, crops, wildlife and humans" (Enticott et al., 2012: 327, emphasis added). This geography of incursion is often played out across nation state territories or more latterly disease free zones (Mather and Marshall, 2011), such that a trading body or zone can submit the necessary paperwork to the World Trade Organisation (WTO) via the OIE (World Organisation for Animal Health) in order to verify their disease free status, or conversely use WTO Sanitary and Phyto-Sanitary agreements to refuse trade in food stuffs where there is significant evidence of disease risk. The end result is a spatial segregation between the virtuous and the unruly (Law and Mol, 2008).

This drive for pathogen freedom in the name of trade is amplified by a precautionary ethos that exists within public health, animal health, regulatory and food retail organisations. Here a need to protect organisational reputation drives efforts to reduce disease risk by adopting disease free practices. This pre-caution is amplified by an "anticipation of retrospection" (Miyazaki, 2003: 259) or what Caduff (2008, 2014) notes is an approach to a future which may well involve being called to account for the actions that were or were not taken to reduce disease risk. Anticipation of known and unknown threats exerts pressure on producers, retailers and regulators, who either assert their sanitary agency over the living processes they organise or specify contracts and legal responsibilities such that, should the worst happen, guilt cannot be linked to the actions of the institution or organisation. The result of this pathogen-focused precautionary landscape is a territorial interpretation of biosecurity with a networked performance of distributed accountability.

In both the security/liberalism and the pathogen/precautionary pairings there are a number of spatial tensions. In the account we have given they include; tensions between fixity and movement; territory and circulation; centralized control as well as redistributions of responsibilities; and an anticipation of legal redress even where there is uncertainty over the consequences of actions. Despite these tensions, the combined result can be a re-affirmation of human agency – a power over life whereby the freedom from disease trumps a freedom or power of life – with the resulting hypertrophic security arguably producing the very conditions that