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Commentary

Avian influenza and events in political biogeography

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In a recent Commentary for *Area*, Roger Keil and Harris Ali (2006) called attention to some features of the 2003 SARS outbreak that were pertinent to concerns over avian influenza. They noted that SARS highlighted the global connectivity of cities (which resulted in SARS' rapid spread), spatial inequalities in healthcare and governance, and the fragility of multicultural values (as the disease was branded as Asian). However, these welcome comments focused predominantly on the situation that will arise if the H5N1 strain of Highly Pathogenic Avian Influenza (HPAI) confirms our worst fears and evolves into a form transmissible from human to human. At present, despite the fact that people have contracted the disease from close contact with infected birds, avian influenza remains an animal disease and should be no less interesting to geographers because of that fact. Consider that, in 2001, an epidemic of foot and mouth disease (FMD) in the UK had far-reaching political and economic consequences despite never posing a particular risk to human health (Donaldson *et al.* 2006). FMD also highlighted global connectivity, with livestock and meat export bans imposed on the UK under WTO regulations, and attempts to trace the route of the 'Pan-Asia' strain of the virus into the country.

As Keil and Ali note, 'the geography of globalization is a geography of disease' (2006, 108), but we would add that it is neither solely a geography of diseases that might infect humans nor an entirely contemporary phenomenon. These points can be elaborated by an exploration of what we would call

'political biogeography' – an enterprise in accordance with geography's current focus on politics *within* the 'natural' or nonhuman world (see, for example, Castree 2003). Whilst biogeography has traditionally focused on the distribution of organisms over space and time, political biogeography should concentrate on the mutual interference of human and nonhuman systems in this distribution. The agri-food system, especially when distorted by disease, provides perhaps the most compelling case for treatment and the contemporary mobility of animal diseases, their viruses and prions, has already engaged geographical imaginations (Hinchliffe 2001 2002; Donaldson and Wood 2004; Law 2006). Geographies of animal disease involve borders, bureaucracy, surveillance and biosecurity. They also entail movement, seen as disease spread. Crucially, they imply a politics of time and space taken *together*. Pathogens control space in as far as they move faster than the countermeasures set against them. Virilio captures this notion well:

territory and movement are linked. ... research on the logic and impact of speed, necessarily implies the study of the organisation of territory. Whoever controls the territory possesses it. Possession of territory is not primarily about laws and contracts, but first and foremost a matter of movement and circulation. (Virilio in Armitage 2000, unpaginated)

For Whitehead (1920), events have fundamental ontological status; rather than taking place in space and time, they give rise to space and time. Extrapolating

from this concept of events as generative, Barry (2002) has noted that events can become 'political events' through processes of inspection and investigation. Political events raise problems and open up debates, as can be seen very clearly in historic and contemporary disease events, yet the speed of the events, and also the relative endurance of responses, have changed. It is not so much the connectivity that is new (*pace* Keil and Ali), but the speed of movement in both the event and its inspection.

In 1920 a devastating outbreak of the cattle disease, Rinderpest, in Belgium was traced to zebu (*Bos primigenius indicus*, or humped cattle¹) from India being transported to Brazil via Antwerp. This happened in an era when Keil and Ali note that sea-travel often provided an effective quarantine situation for human-borne diseases. The Rinderpest outbreak led to the formation, in 1924, of the global animal disease surveillance body, the OIE (Office International des Epizooties, now more commonly known as the World Organisation for Animal Health). In 1998 the OIE became the official health and sanitary standards body for animals and animal products in international trade after an agreement with the WTO, firmly acknowledging in the emerging structures of global governance the entanglement of global trade and animal disease spread. Disease events in this entangled mesh are more common, faster and mix times, spaces and scales in more unexpected ways, producing a continuous flux of temporary territorialisations.

The February 2007 outbreak of HPAI in a large Bernard Matthews (BM) poultry production and processing facility in the county of Suffolk in the east of England provides a clear illustration. This was the first major agricultural incidence of H5N1 HPAI in the United Kingdom and was initially announced as the likely result of contact with unspecified infected wild birds. However, consultation with ornithologists revealed that there were no wild bird movements from areas already harbouring HPAI within the timescale of infection (Defra 2007). Attention shifted to connections between the Suffolk facility and infected farmed geese in Hungary, where BM also has premises. The company's Commercial Director insisted that paperwork on all transactions with Hungary ruled out any imports from restricted or infected areas of Hungary (Today Programme, BBC Radio 4, 9 February 2007), seemingly suggesting that the paperwork inscriptions were somehow prescriptive of the behaviour of viruses (or, indeed, of a multitude of farmers, transportation firms, abattoir workers, bureaucrats and so on). Molecular analysis subsequently revealed a 99.9 per cent

similarity between the H5N1 viruses in Suffolk and Hungary (Defra 2007), suggesting that this was the most likely source of infection. BM's paper trail cleared them of any wrongdoing, yet the virus still arrived from Hungary.

Internal geographies of the Suffolk plant itself were also critical. BM representatives initially rebutted suggestions that their own procedures or lack of care could have produced the outbreak, arguing that they had 'the highest biosafety standards of anyone' (cited by Vidal and Lewis 2007, unpaginated). Workers at the plant were clearly segregated by each being assigned to specific turkey sheds, and subject to rigorous hygiene procedures. As previously observed in the case of FMD (Donaldson and Wood 2004), the surveillance of humans, rather than the surveillance of the disease and its vectors, is at the forefront of biosecurity practice. In the event, even this limited definition of biosecurity was suspended as the workers segregated duty-pattern was broken to enable cleansing of the sheds where infection had occurred. Nonhuman factors at the Suffolk site included gulls which fed on meat trimmings from the turkey processing plant left in open skips and roosted on the leaking roofs of the turkey sheds, and rodents which could also find points of entry into the turkey sheds. Additionally, no distinction appears to have been made between meat from Suffolk and meat from Hungary and elsewhere, which were combined to make processed turkey products.

Animal disease events in the contemporary globalising agri-food system consist of the seeming folding together of places and objects – diseased geese in Hungary and a turkey production facility in Suffolk – but these foldings are temporary and happen at speed. To investigate the pathway of the virus to Suffolk, scientists had to construct a detailed spatial and temporal map of events. Small variations in the timings of trade contacts were significant in determining possible vectors and the legality of the trade activities (Food Standards Agency *et al.* 2007). In its rapid circulations through the agri-food system, HPAI occupies a territory that cannot even be seen by humans until after the event; that may no longer exist for the virus by the time humans have mapped it. But that mapping can have further consequences because events also introduce significant, and unpredictable, novelty (Stengers 2000). In 1920, Rinderpest in Belgium led to an enduring international organisation. In 2001, FMD raised debate over the governance of rural England. In 2007, the scrutiny

of spatial-temporal connections within the Suffolk disease event by Government and media served to turn what might have remained solely a disease event into a political event, a source of debate which created space for renewed criticism of food production and consumer safety (see, for example, Blythman 2007). This suggests that in our political biogeography, the consequential politics of the ongoing distribution of organisms should concern us at least as much the causal. Countering and excluding disease geographies might be a necessary part of creating the world we want; including them more fully is a necessary part of seeing the world we have.

Note

1 The taxonomy of the zebu is a highly contested issue which we do not intend to address here!

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