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Commentary

The avian flu: some lessons learned from the 2003 SARS outbreak in Toronto

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As the H5N1 avian influenza virus races across the globe, leaving in its wake dead wild and domestic birds in many parts of Asia and Europe in the autumn of 2005, we may recall the not so distant memory of Severe Acute Respiratory Syndrome. During the initial outbreak period in Southern China in the early months of 2003, the withholding of epidemiological data by health authorities due to political reasons has made it difficult determine an exact number (see Davis 2005, 69), but it is estimated that eventually 8069 people were confirmed as infected and at least 773 died in a global SARS epidemic that spread mostly between large, globalized metropolitan centres in East Asia and North America. In Toronto, 44 people succumbed to the previously unknown corona virus, 213 were confirmed infected cases, thousands were quarantined, while millions of dollars were lost in business. What can the experience of how this disease was identified, monitored, controlled and ultimately beaten tell us about what we can expect in a major H5N1 outbreak?

Admittedly, there are differences between the two diseases. Local SARS transmission was mostly limited to the hospital setting, with community infection rather rare – although the role of 'super-spreaders' was an important mechanism for disease spread at the global level. Although both diseases had their origin in animals, SARS spread readily from humans to other humans. H5N1 does not (yet). It needs the vector of migrating or transported birds and seldom infects humans. Mike Davis names a few more differences:

> although SARS produces similar symptoms, it is not nearly as 'subtle' as influenza . . . SARS needs about five days to incubate and does not usually become contagious until well after the onset of fever and dry coughing; infectiousness takes about ten days to peak, and research has found few asymptotic infections without sickness. The old-fashioned tactics of isolation and quarantine, if ruthlessly implemented, can work effectively against such a slow-developing virus whose symptoms consistently signal infectiousness. (2005, 78)

Still, SARS took the world by surprise. Avian flu has been around and threatening for years. It is the devil we think we know.

What did we learn from SARS? From research we have been doing on the aftermath of the SARS crisis in Toronto, we might offer the following insights.

First, we have certainly learned that the world is a single entity. There is no place on earth where safety from emerging infectious disease can be assumed. A century of health care progress and affluence was no barrier to the virus when it knocked on the door in Toronto. Anyone could be infected, and many could get violently ill and even die.

Connectivity has risen to unprecedented levels between communities and bioregions that used to be separated by long travels across oceans, deserts and other expanses. In particular, this connectivity in the contemporary world has changed among the metropolitan regions of the world, which are now in immediate proximity due to present-day volumes and speed of air traffic (Guimera *et al*. 2005). Connectivity based on these developments have important implications for the spread of disease when considering that

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the incubation period of many diseases- the period between exposure to the pathogen and the development of the symptoms of disease – is usually several days. In the past, those infected would develop symptoms en route to their destination, as the incubation period for most infectious diseases would be shorter than the travel time. As such, quarantine could be imposed on the passengers on such vessels to limit the spread of the disease. Today, the situation is reversed because the air travel time between any two global cities in the world is much less than the incubation period of most infectious diseases. Thus, an infected traveler would not exhibit any symptoms during the flight and even for several days after arrival at the global city destination. One implication of this is that perhaps public health efforts should focus more attention on the interconnections amongst cities instead of amongst nation states (Ali and Keil 2006; Brenner and Keil 2006). In particular, the sharing of health data amongst cities has proven to be a weak link in the chain of information transmission needed to combat infectious diseases, thus making us equally vulnerable in the global battle against a potential pandemic.

Clearly then, the geography of globalization is a geography of disease. The spread of diseases now reflects and reveals the economic, cultural and social relations that span the globe. What the flight paths of humans and birds have in common is that they connect previously little connected way-stations of globalized production and consumption – the hotels and airport lounges of Hong Kong and Toronto as well as the chicken farms of Thailand with the consumer markets of China and the West. In the case of SARS, global cities happened to be most affected. The urban 'clique' of Toronto, Singapore and Hong Kong, with their specific demographic and economic relationships, was ravaged primarily (on the concept of cliques see Taylor 2004). This may be different with the coming pandemic. H5N1 may connect different kinds of places. But it will connect previously little exposed dots on the global landscape. That much is certain.

Such developments should end a century of Western hubris and complacency in the view that it was time for the developed nations to close the book on infectious diseases and focus on ridding the South of any remaining infectious disease, while turning our attention to the chronic diseases of affluence. This so-called 'epidemiological transition' has proven to be a myth. The reemergence of TB and the HIV/AIDS pandemic were clear warning signals in this context (Gandy and Zumla 2003). In light of SARS, not only must we in the West ask ourselves about our own safety in regard to infectious disease, but we also need to finally give up any notion of being invulnerable and by implication give up our smug attitude that we should serve as an unqualified model for development in the Global South. Moreover, with SARS, as well as many recent natural disasters such as the earthquakes in South Asia and Hurricane Katrina, we have seen the return of 'nature' as an agent, whose power had been discounted in a post-Cold War capitalist world, where the end of history and the complete mastery of nature had allegedly arrived.

Second, we need to understand and accept the diversification of health governance. It was easy to mock Toronto's former Mayor, Mel Lastman, who in a 2003 CNN interview demonstrated his ignorance of the World Health Organization. He was the Mayor and should have known better. But many people in Toronto (and in the world) had little awareness of the WHO until the WHO's infamous travel advisories against Toronto and other cities. With this came the recognition that the detection, definition, treatment, etc. of diseases (and therefore people's health) may be dependent on a remote agency in Geneva, Switzerland, which was, ostensibly, as one public health official said in a personal conversation, 'meant to deal with disease in the South'. It allegedly had no business in the North. Our lives depend on an intricate global network of health governance, which we hope will work when we need it. In the case of SARS, it was the middle pieces, the health agencies of regional and national states, which gave way under pressure. In Ontario, a dramatically underfunded and understaffed provincial health ministry was almost helpless in reacting effectively to disease outbreak, which it was supposed to somehow contain without an adequate surge capacity. Instead of pointing fingers at 'bureaucrats' in Geneva, the SARS experience has directed us to watch more closely the performance of our own public health officials at home. We also learned that we must defend a publicly funded health care system above all – for it is only through this means that sufficient resources will be amassed and mobilized to effectively combat a potential pandemic.

Connected to health governance was the experience that workers in the care professions at the frontlines of the battle against SARS deserve our greatest admiration and respect. Nurses and doctors took the brunt of the outbreak and often were infected,

quarantined, avoided by neighbours and friends, and segregated from their families. Protecting the health safety of these often precariously employed workers in good and bad times is a precondition of our survival as a community in the next pandemic – an important insight in light of the Bush Administration's decision that if faced with a limited supply of antiviral medication, it should be the military that receives such medication first during a future avian flu pandemic.

Third, the SARS outbreak rattled the cage of multiculturalism, that policy and practice Canadians consider as nationally symbolic as their national pastime ice-hockey (Goonewardena and Kipfer 2005; Wood and Gilbert 2005). The identification, at least in the beginning, of SARS as a 'Chinese disease' amounted to thoughts, speech and acts of racism locally and globally (Leung and Guan 2004). A public domain filled with unnecessary repetitious images of Asians in masks and 'exotic' animals in southern Chinese 'wet markets' drowned out Torontonians' usually suspicious attitude against all things racist in their community. As the restaurants of the city's China-towns remained empty and as cases of exclusion against Torontonians from Asia abounded, our proud mixed social fabric was ripped. Even after Toronto itself was a spreader of the disease, the myth that disease comes from elsewhere in infected and marked bodies continued to hold sway. The next disease will come from somewhere, too. Let's not add to those victims who fall ill from the virus those who fall prey to racism. In the long run, the toll racism could take might be more severe than any new and emerging disease and this is especially worth remembering under the present socio-political conditions of the 'new normal' – an already heightened state of suspicion, paranoia and hyper-vigilance spurred on by so-called national security interests of the post 9–11 era (Keil and Ali 2005).

Now, let us put all of this in perspective. In 2004, 3.1 million died of HIV/AIDS, one million more from malaria worldwide. Compared to that, the death toll from the present, less virulent form of the avian flu and the several hundred dead from SARS don't add up to much. Human tragedy of the kind we see inflicted by the combination of pathogens and poverty in Africa today is of proportions yet unknown to Asia, Europe and the Americas. Yet, think again: when H5N1 mutates into a virus that can be transmitted among humans, there seems to be no barrier for it to have exactly the same ravaging effects as those other pathogens – in combination with poverty. Africa will likely be the continent where the flu will find most of its first victims. The disease will be everywhere but the suffering and dying will be a function of poverty, urbanization, injustice, lack of health care, underdevelopment and global health inequalities (Farmer 1996). As Canadians know from the sad experiences of tainted water in our native reserves across the country, these conditions are not far from our doorstep. And, when it comes to infectious disease in our interconnected world, local, national and global public health are all part of the same shared reality.

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References

Ali H and Keil R 2006 Global cities and the spread of infectious disease: the case of Severe Acute Respiratory Syndrome (SARS) in Toronto, Canada *Urban Studies* 43 3 491–509 March 2006

Brenner N and Keil R eds 2006 *The global cities reader* Routledge, London and New York

Davis M 2005 *The monster at our door: the global threat of avian flu* The New Press, New York

Farmer P 1996 Social inequalities and emerging infectious diseases *Emerging Infectious Diseases* 2 259–69

Gandy M and Zumla A eds 2003 *The return of the white plague: global poverty and the 'new' tuberculosis* Verso, London

Goonewardena K and Kipfer S 2005 Spaces of difference: reflections from Toronto on multiculturalism, bourgeois urbanism and the possibility of radical urban politics *International Journal of Urban and Regional Research* 29 670–8

Guimera R, Mossa S, Turtschi A and Amaral L A N 2005 The worldwide air transportation network: anomalous centrality, community structure, and cities' global roles PNAS (Proceedings of the National Academy of Sciences of the United States of America) 102 7794–9

Keil R and Ali H 2005 Infectious disease in the global city: the experience of the 2003 SARS outbreak in Toronto, Canada Paper given at the Conference 'Invisible Enemies'. The Cultural Meaning of Infection and the Politics of the 'Plague' Zürich, 21–24 September 2005

Leung C and Guan J 2004 *Yellow peril revisited: impact of SARS on the Chinese and Southeast Asian Canadian communities* The Chinese Canadian National, Council

Taylor P J 2004 *World City Network: A Global Urban Analysis* Routledge, London and New York

Wood P and Gilbert L 2005 Multiculturalism in Canada: accidental discourse, alternative vision, urban practice *International Journal of Urban and Regional Research* 29 679–91