THE SOCIAL POLITICS OF PANDEMIC INFLUENZAS: THE QUESTION OF (PERMEABLE) INTERNATIONAL, INTER-SPECIES, AND INTERPERSONAL BOUNDARIES

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ABSTRACT

Purpose – This chapter considers the social politics of H5N1 (“avian influenza”), the 2009 H1N1 pandemic, and the response to it within the context of the history of pandemic influenzas and the continuing need for robust preventative public health systems more generally. In particular, the author considers how the borders between nations, species, and individuals are thrown into relief and called into question by influenza outbreaks and their management.

Methodology/approach – This work relies on literature review, media research, and critical and interpretative sociological methods.

Findings – While panic surrounding new and potentially highly virulent influenza strains is reasonable, such panic is not sustainable and belies the
fact that every year presents the danger of a pandemic. This chapter argues that, if public health systems only respond to immediate panic and fail to consider how quickly airborne diseases can cross all sorts of borders, they do not attend to the real need for far-seeing, long-term, internationally collaborative disease prevention and disaster preparedness.

Contribution to the field – The author offers a critical and wellness- and prevention-oriented perspective on what priorities should be emphasized in the rapidly growing fields of disaster studies and disaster preparedness, which, by their nature, tend to be crisis oriented and focused on the micro-term, with planning done on a case-by-case basis. Such a narrow focus can render preventative health systems inflexible and unable to rise to the challenge of a disease that can spread easily through casual contact.

INTRODUCTION

This chapter is a consideration of the politics and public health implications of responding to and preparing for a potentially deadly global influenza, in light of the devastating 1918–1919 influenza pandemic, the threat of avian influenza since the first recorded H5N1 outbreak in humans in 1997, and the 2009 H1N1 pandemic. Many critics (Garrett, 2000; Rhodes, 1998, e.g.) have argued that we put ourselves at great risk – in the United States and internationally – by continuously deprioritizing what is already an insufficient public health infrastructure. The rush to provide sufficient vaccine for H1N1 and seasonal flu in 2009 – in both North America and internationally – has demonstrated just how many infrastructural weaknesses there are.

At least as important as buttressing existing disease prevention systems, though, is the need to rethink how we conceive of public health. To imagine it as a robust system, one that can adapt to new situations and work throughout people’s lives rather than the current notion of a heroic mechanism that sweeps in at critical moments to vanquish death and maintain the workforce, would constitute a major shift in policy goals and money allocations. This new and different type of long-term public health response likely would have more goals in common with the educational system or other institutions of civic infrastructure than with the military, making it a shift from the sorts of public programs that have historically received large amounts of funding in the United States, programs whose goals align with those of national security. We North Americans panicked
Disasters and disaster preparedness have received much attention in public health policy and the social sciences over recent years, especially as emerging epidemics have garnered increasing amounts of journalistic and public awareness. Most of this attention, however, has focused on a case-by-case basis or on financial liability, leaving all too little space for the most crucial question of how to produce public health and emergency systems that are always prepared and that focus on real prevention rather than just controlling scared populations after a disease threat materializes.

The ever-present possibility of an influenza pandemic presents a particularly thorny problem because we have been living with this potential for generations. We must expect to live with it for generations to come as well. Even ordinary influenza results in over 100,000 hospitalizations in the United States each year. Flu pandemics like the “Spanish” flu of 1918–1919, the “Asian” flu of 1957–1958 (which killed well over 1,000,000 people), the “Hong Kong” flu of 1968–1969 (which killed over 500,000 people), and this year’s H1N1 are extraordinary in their transmissibility and adaptability (Snacken, Kendal, Haahheim, & Wood, 1999), but influenza viruses mutate constantly. Pandemic flu is always a possibility and invariably stretches even good public health systems to their limits. This means that preparing for pandemic flu is a good test for health systems to gauge their readiness for any potential large-scale emergency, whether caused by a disease agent or natural disaster, and to integrate broad and robust prevention care with emergency planning.

In this chapter, I will review the history of influenza pandemics since 1918 up to 2009, discuss the relationship between pandemic flu and seasonal flu, and then consider how public health and epidemiology have responded to these crises as opposed to the more integrated and active role that public health could play in preventing disastrous pandemics and the panic that surrounds them.

My two, closely tied, main points are as follows: (1) we must think ecologically and with a wide and historical view to understand influenza or the possibility of any airborne pandemic, and not only in terms of
momentary panics or emergencies – unlike a major storm or earthquake. Flu pandemics occur over the space of many months and most of the globe and require much more than basic disaster response (which, in any case, is often inadequate even in the face of other natural disasters, such as the Indian Ocean tsunami of 2004). (2) The major boundaries that constitute a significant aspect of how most people think of infections and epidemics – national; ethnic, communal, and racial; interpersonal; and species – are all permeable and, in some cases regarding flu, functionally meaningless, such that their invocation can cause misinformation and harm.

Sociology’s role in preventative public health and disaster preparedness may go beyond its contribution to understanding how different institutions can share power and develop compatible functions to work together. Sociology can, as Barbara Katz Rothman writes (see her introduction, 1998), offer a different set of priorities for public health as a large and complex mechanism that works toward reducing suffering and social inequities; it can offer a different vision of how we, the public, imagine an ideal health care system. Philosopher Barry Hoffmaster, in his introduction to the volume Bioethics in Social Context, advocates attention to the practical implications of every biomedical ideal, to the “fundamental matter of medical–moral responsibility” (2001, p. 4). It is crucial to remember, especially in the midst of responding to a population-level panic over an infectious disease outbreak, that the welfare of individuals is at the heart of why the population they comprise matters.

BACKGROUND: WHAT MAKES A PANDEMIC, AND WHEN IS FLU DEADLY?

The threat of pandemic influenza is a topic about which everyone now knows something. What each person knows, however, varies considerably throughout even small communities (such as a school district in New York City), let alone on a national or international scale. There is great variance, too, in estimating how much concern we should devote to this issue. Is panic reasonable? Or is the fear bamboozling us into forgetting the war in Iraq? Are the shelter-in-place directives (basically, food, water, and batteries to last two weeks, now applied to all potential disasters) fail-safe or absurd, and will there be enough flu vaccine to supply even the highest risk groups?
Mike Davis, in an article for *The Nation* in 2005, when the primary pandemic flu threat was avian influenza, H5N1, wrote:

Avian influenza is a viral asteroid on a collision course with humanity. Since the horrific autumn of 1918, when a novel influenza killed more than 2 percent of humanity in a few months, scientists have dreaded the reappearance of a wild flu strain totally new to the human immune system …. Governments have had ample warning, unlike the surprise of HIV/AIDS, that a new plague is coming. Indeed, Washington has had almost nine years to heed the advice of top influenza experts and mobilize the nation’s resources to battle H5N1 in Asia and at home. The Bush Administration’s failure to do so makes “homeland security” into a sick joke whose punch line may be a repetition of the 1918 catastrophe. (2005b, pp. 1–2)

A report published in November of 2006 by the Financial Services Roundtable’s committee on “mega-disasters,” making recommendations to the US Congress and to insurers, stated baldly:

No one is ready if the pandemic occurs within the next several years …. We must be better prepared. This report recommends a series of steps that the federal government should take, many in concert with governments of other countries, to reduce the threat to lives and the global economy. We believe a comprehensive plan would cost roughly $10 billion more than the $7 billion the U.S. Government has committed to spending already. This additional sum is less than 1/10th the amount the federal government has devoted to relief and recovery from Hurricane Katrina. Additionally, it is a tiny fraction of the more than $500 billion in lost output in the United States alone that a pandemic could cause. (2006, p. 8)

However, several months on from the original recorded outbreak of the H1N1 influenza virus in Mexico (this paper is being finalized in the autumn of 2009), it seems that pandemic flu has fallen short of the terrifying threat it seemed to promise. H1N1 has proven to be frightening and to be quicker moving, more virulent, and two to three times more likely to cause death than this year’s seasonal flu, but, thankfully, it has not delivered the disaster of the major and deadly pandemic that many expected. Seasonal flu, meantime, continues to cause about 35,000 deaths per year in the United States and to cause widespread workplace shortages. What, then, distinguishes pandemic flu from the seasonal variety, and what makes influenza both so much a mundane part of everyone’s life and a true disease threat? Pandemic flu is marked by its novelty (that it is caused by a strain not previously seen in humans), by its virulence, and by its ease of transmission. In the northern hemisphere in the fall of 2009, for example, pandemic H1N1 was outstripping all the seasonal flu strains with respect to its rate of spread and the likelihood that those whocontracted the virus grew sick, often very sick.
The 1918–1919 influenza pandemic killed between 50 and 100 million people worldwide, but the figures are difficult to pin down because the ongoing war made record-keeping very difficult (Barry, 2005; Kolata, 1999). The 1918–1919 pandemic was widely referred to as the “Spanish influenza” because it was first reported in large numbers in Spain. Some contemporary theories attributed its origins to China (see “The Influenza Pandemic of 1918” at http://virus.stanford.edu/uda/), but it seems the first eruptions of influenza occurred on military bases in the American Midwest. A recent study conducted in London suggested the pandemic might actually have emerged in France, from the ecology of juxtaposed soldiers, gas, pigs, and fowl (Oxford et al., 2005). The longstanding association of certain diseases—particularly the flu—with nations, regions, or races (particularly Asians in the 20th century) is, I argue, part of why the United States and global public health bodies like the World Health Organization (WHO) were slow to respond to H5N1 virus in Hong Kong in 1997. Even since 2004, when H5N1 began to draw much international attention, there has been consistent debate about whether wealthier nations should rush resources to the source of an avian influenza epidemic—should that epidemic start in Asia or Africa—or wait until the virus reaches their borders.

In 1997, 18 people in Hong Kong were hospitalized with a strain of H5N1 avian influenza that was new in humans; 6 of these people died of the disease. Every human exposure in this case was linked to live bird markets, and the strain did not transmit easily among humans or extend beyond the initial outbreak (Davis, 2005a; Snacken et al., 1999). From 2003 to 2009, small outbreaks of H5N1 infection in humans emerged through much of Asia and beyond, extending to Bangladesh, Egypt, and Turkey. During this same period, H5N1 was found in wild, migrating birds throughout most of Africa and into the colder regions of North America.

Scientific and public anxiety about H5N1 grew, climaxing in 2005 and 2006, following the most worrying H5N1-related incident in 2004, when Pranee Thongchan contracted H5N1 virus from her daughter Sakuntala as she nursed the girl through the final hours of an acute infection in the Thai town of Kamphaeng Phet. Both mother and daughter died from H5N1 within a few days, and this remains the only confirmed instance of human-to-human transmission for this strain. In this case, it required many hours of intimate contact with large quantities of virus-laden bodily fluids, which meant the virus was still not easily transmissible. With this case, H5N1 became a matter of major international concern, as influenza experts like Robert Webster decried the fact that it had taken seven years to turn so much attention to it.
When the H1N1 outbreak was confirmed in Mexico in the spring of 2009, many flu researchers were shocked because attention had been focused on Asia for the past 12 years. By July, the WHO had declared a “phase six pandemic.” Later in the summer, research showed that the strain behind the Mexican pandemic was extremely similar to one that had caused a small human outbreak in the American Midwest four years earlier, suggesting that this epidemic had been in the wings for some time (Garrett, 2009).

The discovery in 2006 that the 1918 pathogen was likely a mutated avian or swine flu contained some hope for future action. Assuming that it was the very unfamiliarity of the virus that killed so many infected with it, the 1918 virus, now genetically recreated from frozen tissue samples, could potentially lead to a vaccine that sufficiently resembled what a mutated H5N1 might look like. Such a vaccine might not be a perfect enough match to prevent sickness, but it might give the immune system enough familiarity with the antigen to reduce the number of deaths from the disease (Matthews, 2006; Leavitt, 2006). Having an imperfect-match vaccine stockpiled might curtail hospitalizations and deaths in the months it takes to produce a perfect-match vaccine, as we have seen with H1N1 vaccine production in 2009.

VACCINES, INTERNATIONAL BORDERS, AND INTERPERSONAL BARRIERS

The obstacles to smooth and effective population-level vaccination, however, are many. Influenza vaccines, which are generally still produced by infecting fertile chicken eggs with the virus and then harvesting antigens and killed viral particles, decompose rapidly and, even while potent, they quickly lose efficacy as the circulating strains mutate. For vaccine programs to be effective at the population level, to achieve what infectious disease specialists refer to as “herd immunity,” a majority of the population (ideally, 60–70%) would need to be vaccinated. Even if enough vaccine could be produced, many people harbor suspicions about the possible side effects. In any case, it is difficult to produce enough vaccine because inoculation is not a profit-making branch of medicine and because vaccines need to be distributed inexpensively and are typically administered only once or twice (see, e.g., the World Health Assembly’s 60.28 working paper, “Patent Issues related to Influenza Viruses and their Genes”).

Medicine production is, certainly in the global North and, to a significant degree, throughout the world, a profit-making business. This affects
vaccination programs both because vaccine production cannot be lucrative and because the greed and wealth of many pharmaceutical conglomerates make people, and some governments, suspicious of them. Regarding the former issue, the 1976 flu vaccine controversy in the United States offers a cautionary tale. After an outbreak of swine flu at Fort Dix military base in New Jersey, the US government began an active, government-led, and subsidized campaign to inoculate the nation’s population against the strain. President Ford’s vaccination was photographed for publicity, and Congress earmarked US$ 137 million for the program. Soon after vaccinations began, however, the plan dissolved amidst controversy. The pharmaceutical manufacturers charged with making the vaccines demanded indemnification against possible lawsuits, raising public doubts about the safety of the vaccine. Then, some cases of Guillain–Barre Syndrome developed in individuals who had received the swine flu vaccine. Although the number of cases was small (fewer than 50 such cases associated with all flu vaccinations between 1976 and 2006) and causality has never been determined, the co-occurrence confirmed the fears many people had, and the program ground to a halt (for an history of this event, see Sencer & Millar, 2006).

Regarding the latter issue, associating the United States with pharmaceutical conglomerates and with the UN has prompted some nations to suspect the United States and UN of colluding to actually spread influenza viruses in order to later reap profits from selling vaccines to those countries in which they had planted epidemics. In 2007, the Indonesian government refused to share any more flu virus samples found in the country with the WHO after the pharmaceutical company CSL produced a vaccine based on samples from Indonesia. “Jakarta argue[d] it has an intellectual property right to the country’s flu strain and to designate who develops a vaccine and profits from it. It says it is willing to share samples with those who agree they will not use them for commercial [purposes],” Reuters reported (Perry, 2007), regardless of the fact that the virus had already been traveling across state borders in the bodies of migrating birds. While the idea of any nation “owning” a flu virus is illogical and dangerous, it is also supported by the market economy (again, see the World Health Assembly’s 60.28 working paper, “Patent Issues related to Influenza Viruses and their Genes”).

All too similar is the notion that wealthier nations would do better to hoard their antivirals or vaccine stockpiles and wait for the virus to come to them rather than to advance these to the first local epidemics. In Atlantic Storm, a 2005 tabletop exercise simulating an international smallpox attack, Madeleine Albright, acting as the US President, held the position that the
United States would not share its vaccine stockpiles with nations that had not supported the US-led war in Iraq (see UPMC Biosecurity Center, 2005). While the situation was hypothetical and the actors were performing, this thinking is in line with much US foreign policy at the time and, perhaps, with complicated and incoherent ways in which public health and security issues intersect in many people’s minds.

Indeed, shoring up national borders to prevent the importation of infectious agents is standard practice but, in the case of airborne pandemic, very difficult to enforce effectively. As the death toll from India’s H1N1 epidemic rose to 100 in the summer of 2009, airport security staff in India and other Asian countries brought out the thermal scanners used during the SARS scare seven years earlier to scan all disembarking passengers. The scanners had provided some use in containing SARS because that disease is marked by a rapid fever spike. With influenza infection, the fever might come more slowly, and the ill individual is infectious before the fever begins. The first few months of the H1N1 pandemic also saw travelers the world over prone to being tested and quarantined on the basis of their point of origin, with Mexicans under surveillance first and then New Yorkers. Here in New York City, the borough of Queens, where the first domestic outbreaks were concentrated around students returning from spring vacations in Mexico, became associated with H1N1.

Unsurprisingly, however, the H1N1 virus had traveled quickly beyond the highly organized Mexican quarantine and curfews and the immediate school closures in Queens, across the tourist isolation in Hong Kong (where authorities must have felt slightly bemused that the influenza pandemic long expected to originate in their city had arrived from elsewhere), and past the thermal scanners in Asian airports. Because influenza is airborne, because infected individuals are contagious before they show symptoms, and because H1N1 proved to be particularly transmissible, it is not surprising that all these measures might have slowed its spread but could not stop it. As this strain became a full global pandemic, its death toll rose as well, although the greatest concentration of fatal cases has remained in Mexico in the spring and in India in the summer, where they were likely exacerbated by poverty and co-infections.

As H1N1 has spread throughout the world, past international borders, interpersonal barriers have become a matter of ever-greater concern to most people. In the 1918 influenza pandemic, quarantines and face masks were used widely and often enforced strictly. Neither is likely to have been very effective, though. Again, because individuals with the flu are contagious before they show any symptoms, quarantines can, at best, only slow the
spread of the virus. Once an individual is infected and ill, the fact that influenza replicates in mucus membranes means that face masks are not always practicable; the respiratory discharges, violent coughs, and difficulty breathing that are symptomatic of serious flu make it impossible to wear one. Even before one is ill, face masks are uncomfortable and usually too porous to block viral particles (Barry, 2005; Davis, 2005a). Vaccines suit the common contemporary mindset about disease in that they seem to promise quick, efficient, and total protection from the effects of pathogens. Where no vaccine is yet available, the search for equally efficient and complete protection from pathogens continues. Quarantines and face masks at least offer this symbolically. The 2009’s ubiquitous directives to carry hand sanitizer, to wash hand for at least 15 s, to smother coughs, and to stay home when sick work toward similar security. Each of these directives is a good idea, but none can fully diminish the risk of contracting flu.

I do not mean to argue that it is wrong to reinforce international and interpersonal barriers to contain flu contagion. Of course we should, and studying the sociology of infectious disease has made me into an avid hand washer myself. However, unless an influenza outbreak is contained quickly, strategically, and completely at its source, it is naive to expect that the virus will respect national borders or the good hygiene of individuals. Airborne viruses, in particular, can pass from one person to another through a cough, even a smothered one, while they are waiting to go through customs or despite their very clean hands. These measures make sense, but they do more to reinforce individuals’ need for some control and a feeling of security in the face of an epidemic than they actually enhance biosecurity. A critical aspect of our emphasis on these borders is, I argue, our reluctance to admit that we 21st-century humans remain a part of, and subject to, the natural world and, therefore, vulnerable to its diseases and predations just as it is to ours.

I move now to a discussion of the significance of species boundaries when considering the management of influenza viruses that can hop from one kind of animal to another.

SPECIES BOUNDARIES AND THE ROLE OF INDUSTRIALIZED MEAT FARMING

With respect to avian influenza, the WHO, the World Organization for Animal Health (OIE), and the UN’s Food and Agriculture Association
(FAO) have given a great deal of attention to developing health policies for live bird markets (see FAO/OIE/WHO joint report, 2005). Live bird markets are a concern because birds from many different sources are kept in very tight proximity to each other and because they are kept in conditions that create extreme stress for them, which reduces their immunity. In industrial meat and egg farms in the United States, we see the same issue. Animals bought from many different auctions, coming from different regions, are kept in extremely overcrowded and highly stressed conditions. As well, as Jean Halley discusses in her work on cattle ranching, industrially farmed animals are bred to have abbreviated lives – they are essentially born to die (personal communication, July 29, 2009). This means that animals can contract viruses and then be sent to slaughter before the viral infection begins to show visible symptoms. Richard Rhodes, in his book on mad cow disease, discusses how this compressed birth-to-slaughter time-frame makes it practically impossible to know if beef cows are infected or not, especially if the infectious agent at issue is a slow virus like the one that causes mad cow disease (1998). This matter of diagnosis is exacerbated by the fact that most animals that are industrially farmed for slaughter exist in such inadequate conditions that many of them are sick all the time. Most companies compensate for this by feeding them large doses of antibiotics as a common course. Aside from the concern about creating population-level antibiotic resistance, this practice has the added downside of the false but common American perception that antibiotics can cure everything (see, e.g., Andremont & Tibon-Cornillot, 2006). They do not, certainly, provide any protection against viruses. So it was a reasonable – though not necessarily accurate – guess that the H1N1 virus may have been produced on an industrial pork farm in Mexico.

In a Newsweek article in 2009, Laurie Garrett wrote about the inaccuracies and uses of referring to H1N1 as swine flu:

A [wise] set of pig-related actions would turn to the strange ecology we have created to feed meat to our massive human population. It is a strange world wherein billions of animals are concentrated into tiny spaces, breeding stock is flown to production sites all over the world and poorly paid migrant workers are exposed to infected animals [who are, in turn, exposed to infected humans and to other livestock]. Back in 1980 the per capita meat consumption in China was about 44 pounds a year; it now tops 110 pounds. In 1983 the world consumed 152 million tons of meat a year. By 1997 consumption was up to 233 million tons. The UN FAO estimates that by 2020 world consumption could top 386 million tons of pork, chicken, beef, and farmed fish. This is the ecology that, in the cases of pigs and chickens [and ducks], is breeding influenza. It is an ecology that promotes viral evolution.
Both with H5N1 and with H1N1, local and international authorities have often responded to outbreaks with culls of domestic and/or wild animals in the area, although this has sometimes been more a panicked, almost ritualistic purging than a strategic program to contain infection. The FAO and the OIE provide fairly clear and specific guidelines for animal culling, indicating when it is necessary and when it is not, how many animals should be killed and in what sort of a spatial range from the estimated point of infection, and how culling can be performed most humanely and hygienically. However, many of the birds, dogs, and domestic cats that were culled in Southeast Asia in 2005 and 2006 were simply buried alive and conscious. The welfare of the animals may or may not seem important to everyone in the face of a pandemic threat, but its context is that many of these animals were household pets and that much of this culling was excessive, ineffective, and conducted in an unplanned and haphazard manner, almost more for metaphoric purification than as epidemiological strategy. The World Bank and FAO specify that compensating people for their animals is important, both to prevent local economic collapse and to encourage people to surrender animals when a cull is called for. The FAO guidelines suggest compensation at a rate of about two-thirds the animal’s market value, which is a significant depreciation for a family that relies on its animals for part or all of its livelihood, and this two-third compensation is not always feasible or achieved.

In a 2006 report on culling and compensation to eradicate H5N1 in Asia, the World Bank wrote:

Payment of compensation to farmers whose animals are being culled enhances producer cooperation through better motivation to comply with the disease reporting and culling requirements of disease control packages. It reduces the time lag between an outbreak and containment actions, and hence diminishes the overall cost of control. To the extent that it reduces the virus load, it also reduces the risk of the virus mutating to become transmissible from human to human. Enhancing early reporting and complete culling of diseased or suspected birds is thus the first objective of compensation schemes. A second objective can be to reimburse losses of private citizens who have complied with a disease control process for the public good. This is compatible with the first objective ....

While the imperative of disease containment drives compensation schemes, the reality of the severe impact of culling on very poor people cannot be ignored. (2006, p. iii)

Meanwhile, the OIE has produced a set of 10 principles for the killing of animals for disease control, which are included as part of its Terrestrial Animal Health Code. As they put it, these principles are “based on the premise that a decision to kill the animals has been made, and address the need to ensure the welfare of the animals until they are dead.” Just as the
World Bank’s principles are noteworthy for their focus on the economic needs of small farmers and other stakeholders in micro-markets, the OIE’s principles are noteworthy for a repeated emphasis on the welfare of the animals to be culled. In 2009, these principles included:

- All personnel involved in the humane killing of animals should have the relevant skills and competencies. Competence may be gained through formal training and/or practical experience.
- Methods used should result in immediate death or immediate loss of consciousness lasting until death; when loss of consciousness is not immediate, induction of unconsciousness should not cause anxiety, pain, distress, or suffering in animals.
- There should be continuous monitoring of the procedures by the competent authorities to ensure they are consistently effective with regard to animal welfare, operator safety, and biosecurity (World Organisation for Animal Health, 2009, p. 1).

The issue of biosecurity during a cull is an essential one that is too easily overlooked. Biosecurity can be compromised in a number of ways. If management is poor, infected animals have greater motivation and better opportunities to escape. If those people involved in the cull are not competent and experienced, they run a higher risk of becoming infected themselves. Further, if culls are not properly controlled, a large gathering of spectators or informal participants increases the likelihood of contagion among the crowd. Again, while the welfare of the animals to be culled is usually a low priority in the panic surrounding culls, under the best circumstances, it should matter of its own accord. As well, it should matter for how deeply integrated it is with a number of other issues that are essential to effectively containing infection and reducing the epidemic risk.

It is the crisis situation, the rush to contain terror at a new disease contagion, that prompts hurried, haphazard culls. While the FAO and OIE do, as we have seen, have principles in place that should guide such measures, these principles are mere ideas until the far-sighted, collaborative, practical work is done to make them logistically deployable. Unless such practical plans exist, animal culls are more likely to cause harm than to contain influenza outbreaks. As domestic fowl and other animals were being culled in Turkey in 2005, for example, wild fowl carrying H5N1 were already migrating elsewhere. To return to Laurie Garrett’s words, wise action would turn to ecology for its perspective, a viewpoint cognizant of how microbes, animals, and humans all function together and affect each other irrespective of the socially constructed borders (economic, national,
and species) that fundamentally structure how most people conceive of the world but are meaningless on an animal or microbial level. For example, how does the ecology through which cheap meat is produced, killed, and distributed internationally produce new microbes and how does it increase the vulnerability of farmed animals and the workers at those farms, slaughterhouses, and warehouses? How do people and animals coexist and, in sharing space, also share the risk of influenza infection?

Jeffrey Bussolini, translating and interpreting Roberto Esposito’s *Immunitas*, describes how Esposito draws on Rene Girard’s *Violence and the Sacred* to draw a parallel between the contemporary hopes for vaccines and the ancient practice of eliminating plagues by designating a scapegoat which is “externalized” by driving it, with the burden of the plague, outside community boundaries. As Bussolini told me, Esposito writes that the medical condition consists of inoculating a limited amount of the disease just as, in rituals, a little bit of violence (the burdening and driving out) is injected into the social body to prevent greater violence (turmoil within the community). Girard draws a link between this ancient form of managing violence and the modern act of inoculation. This injection (the inoculation) is a repetition of the sacrifices (as in the scapegoat) and, “as in all types of sacrificial protection, naturally contains the possibility of a catastrophic inversion” (personal communication, April 11, 2009).

With vaccination programs, hygiene, quarantine, and animal culling, it is crucial to be strategic, to be precise, to be practical, and for institutions or states with different perspectives and areas of expertise to work together in order to respond effectively to a pandemic rather than letting panic and bad planning exacerbate existing inequities in the name of disaster response.

**CONCLUSION**

My concerns, then, are about the ebb and flow of public panic that flu news both responds to and generates. It is important to discern between “pandemic threat” and the constant threat of flu but to also understand that virulent and pandemic influenza is a possibility at almost any time. An emphasis on isolating specific pandemic threats only as they seem to emerge creates fits and starts of attention but very little consistent, systemic thought about prevention. There is a real need for a robust public health perspective – one that can be flexible enough to monitor flu activity all over
the world by cooperating with respect to surveillance and treatment – and an ecological one – one that thinks in terms of systems and their interactions with each other. How do changes in global meat consumption affect the development of novel viruses? How should vaccines be distributed to have the most population effect worldwide? Perhaps most importantly, how can this public health perspective address income difference and the enhanced vulnerabilities of the poor?

In 2005, Paul Farmer wrote, “[Making] social and economic rights a reality is the key goal for health and human rights in the twenty-first century.” Three years later, Sir Michael Marmot, Chair of the WHO’s Commission on Social Determinants of Health, said, “We rely too much on medical interventions as a way of increasing life expectancy. A more effective way of increasing life expectancy and improving health would be … to make health and health equity a marker for government performance” (WHO, 2008). It is fair and reasonable that we, as citizens, expect our governments to act responsibly and with foresight, to collaborate with other governments and with the private sector when necessary, and to dedicate sufficient funding and human expertise to developing preventative health systems that are practical, responsive, and functional and that are an integral aspect of everyday life as well as disaster preparedness.

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