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Bird flu biopower:

Strategies for multispecies coexistence in Việt Nam

ABSTRACT
Outbreaks of SARS, swine flu, and avian influenza have prompted a "One Health" effort to control diseases transmitted between species. Using ethnographic observations from Việt Nam, I reveal how avian flu transforms strategies for living in light of human vulnerability to animals. Positing a multispecies approach to biopower, I argue that techniques for safeguarding human–animal collectivities confront heterogeneous moral codes surrounding animals' role in knowledge hierarchies, village economies, and notions of individual worth. This analysis provides a framework for reconceptualizing biopower in relation to emerging diseases and reenvisions the role of animals in the politics of life itself. [*biopower, human–animal relations, avian influenza, Việt Nam, multispecies ethnography, ethics*]

On September 29, 2004, health experts from around the world assembled at Rockefeller University in New York City to address growing concerns about zoonoses, or diseases transmitted between animal and human populations. After discussing case studies of Ebola, chronic wasting disease, and avian influenza, the experts concluded,

> Recent outbreaks of West Nile virus, Ebola hemorrhagic fever, SARS, Monkeypox, mad cow disease and avian influenza remind us that human and animal health are intimately connected. A broader understanding of health and disease demands a unity of approach achievable only through a convergence of human, domestic animal and wildlife health: "One Health." [Cook et al. 2009]

Citing mutual benefits to humans and animals, the experts delineated 12 priorities for a holistic approach to preventing epidemics and zoonoses. Today, the "One Health" initiative guides the policies and activities of health institutions across the globe. Positing that "we cannot solve today's threats and tomorrow's problems with yesterday's approaches," this initiative signals a paradigm shift in public health, wherein efforts to address human health problems are increasingly rooted in considerations of our links to other species.[1] "One Health" seeks to integrate wildlife, agricultural, and public health science; coordinate disease surveillance and responses across human and animal health sectors; and educate people about the relationship between safeguarding their health and protecting biodiversity (Cook et al. 2009). Active in the creation of truth, power, and morality, "One Health" has thoroughly inserted animals into contemporary biopower. Inasmuch as this health strategy entails disciplining bodies across species, it opens up new spaces for creating political and ethical subjects in concert with animals.

The emerging "One Health" order is particularly visible in Việt Nam, where highly pathogenic avian influenza (HPAI) is decimating poultry populations and causing alarming human fatality rates.[2] Since initial outbreaks occurred in 2003, the country has become a center for efforts to control

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avian flu at the "human–animal interface," or in the shifting ecologies where species meet (FAO-OIE-WHO Collaboration 2010). I use the case study of Vietnamese avian flu management here to develop an approach to biopower that accounts for entanglements between species in contemporary global health. Drawing on ethnographic research with multinational policy makers, health workers, and poultry producers, I examine how Vietnamese bird flu interventions govern human interactions with poultry, and I explore the implications of this type of governing for political and ethical practice.

Scholars have recently argued that an anthropology of biopower must consider how humans govern animals, how humans are governed like animals, and how animals are governed in moral terms (Pandian 2008). Recasting biopower to include animals addresses the "transspecies" concept in anthropology, which moves beyond the human to examine emergent relationships among species (Kohn 2007). While incorporating animals into biopower, this scholarship nevertheless tends to consider humans and animals as distinct groups: Biopower acts on humans through animals, on humans as animals, or on moralized animals (Ahuja 2011). Expanding this research in light of bird flu management shows that biopower also operates on humans and animals collectively, as one social group composed of humans living *with* animals. I use *with* here to highlight how bird flu interventions target relationships between people and poultry to govern the existence of both species—though in different ways. To this end, bird flu management is concerned with regulating connections between poultry health and human health, connections that are determined by the ways people live *with* poultry. I therefore analyze bird flu biopower through the framework of multispecies ethnography, which foregrounds the diverse organisms whose vitality is linked to human social worlds (Kirksey and Helmreich 2010). My aim here is to examine processes for governing multispecies collectivities and explore their implications for ethical conduct. I argue that zoonoses raise new questions about human obligations to animal health, which spur conflicts about how humans should conduct themselves in the name of an existence they share with other species.

I begin by providing background on avian flu in Việt Nam and delineating a framework for applying the concept of "biopower" to multispecies relationships. I then provide an empirical account of how a particular zoonosis, avian flu, reconfigures biopower by expanding its purview to include both human and animal bodies. I start by tracing how the knowledge-producing and disciplinary mechanisms of public health incorporate multiple species. Enhancing literature on biosecurity and critical animal studies, this analysis suggests that avian flu provokes new ways of apprehending and managing life in light of human entanglements with animals. I subsequently explore the novel forms of political and ethical reflection that result from these transformations in health governing. Specifically, I relate two cases in which bird flu interventions struggled to govern people's conduct with poultry in Việt Nam. These cases reveal how strategies for securing human–animal collectivities confront heterogeneous moral codes surrounding the place of animals in Vietnamese knowledge hierarchies, village economies, and notions of individual worth. Citizens draw on these codes as they engage and interfere with bird flu interventions through strategic interactions with poultry. Taking these cases together, this study suggests that in contemporary "One Health" orders, animals figure prominently in individuals' recognition of their obligations to themselves and other beings, and in the ways in which those individuals subsequently conduct themselves.

Avian influenza and the turn to "One Health" in Việt Nam

Việt Nam offers a particularly fruitful site for inserting animals into biopolitics. It was among the first countries to report outbreaks of HPAI in 2003 and has since suffered some of the heaviest losses to the disease. The country tops the list of reported poultry outbreaks and ranks third worldwide in terms of human fatalities (WHO 2011). Compounding these casualties, the status of poultry production as a chief industry in Việt Nam has meant that avian flu also threatens the country's economic health. In the first year of HPAI outbreaks alone, Vietnamese poultry producers lost approximately 66 million birds to the disease and related culling operations (McKenna 2006). With nearly two-thirds of national poultry production coming from semicommercial and household farms, small-scale producers have borne the highest economic losses relative to income (Otte et al. 2008).

The scale of human, animal, and economic losses to avian flu has made the country a locus for multinational interventions against the disease. Việt Nam has received the highest per capita amount of foreign avian flu aid of any country (Vu 2009). Further, in contrast to countries that address pandemic flu through strategies that target humans, such as vaccine development, surveillance systems, and drug stockpiles, bird flu management in Việt Nam concentrates on humans and animals simultaneously. An early official statement declared, "The Joint Government-UN program was established to support an integrated, multisectoral and well-coordinated response to the challenge of controlling avian influenza in animals and responding to the threat of a possible human pandemic" (Partnership on Avian and Human Influenza n.d.). This purposeful linking of human and animal health sectors characterizes bird flu interventions in the country, where a "bold approach of veterinary intervention has attracted worldwide attention and praise" (Vu 2009:5). Vietnamese bird flu management thus

exemplifies the paradigmatic shifts to "One Health" that are occurring as a result of zoonoses. Bringing animals into the fold of human health in unprecedented ways, Vietnamese bird flu management provides an ideal site for extending biopower across species.

From 2008 to 2009, I conducted ethnographic research to examine the effects of avian influenza management on poultry production practices and human–animal relationships in Việt Nam. I employed a multisited approach that began in Hà Nội, the country's capital and center for health policy. I then surveyed poultry farming in two socioeconomically distinct provinces, Bắc Giang in the northeastern Red River Delta, and Đồng Tháp in the southern Mekong Delta. Over the course of this fieldwork, I joined two multinational campaigns to alter interactions between farmers and poultry, engaged in participant-observation with several poultry-producing families, and worked alongside state veterinarians implementing bird flu measures in local communities. Through this research, I examined several key bird flu interventions: poultry vaccination, risk mapping, behavior change, and biosecurity standards. This materially and historically grounded investigation extends recent approaches to biopower by focusing on the ideas, strategies, and modes of ethical reflection involved in governing both human and animal lives (Collier et al. 2004; Rose and Rabinow 2006).

Recasting biopower for bird flu

In his now famous formulation, Michel Foucault developed "biopower" to describe systems of knowledge and strategies for intervention focused on optimizing the vitality of human beings. Biopower moves between two poles, an anatomopolitics that maximizes the force of human bodies through disciplinary measures and a biopolitics that administers the population via regulations on birth, morbidity, and death (Foucault 1990:139). For Foucault, biopower marks a crucial shift in the modern era, wherein individuals and populations are understood as sets of natural processes to be defined and controlled according to normative behaviors.

Since its introduction in *The History of Sexuality* (Foucault 1990), biopower has permeated research in the social sciences and humanities, finding particular purchase in investigations of health and medicine. Scholarship in this vein demonstrates how public health systems categorize individuals into populations through which they are then targeted for discipline and control. Under the auspices of optimizing life, health discourses and policies shape individual habits to comply with state and multinational directives (Peterson and Bunton 1997; Peterson and Lupton 1996). Nikolas Rose and Paul Rabinow (2006) productively divide biopower into three related components: truth discourses and authorities that make claims about human existence, interventions into social groups in the name of life and health, and modes of self-government aimed at individual and community well-being. Delineating biopower along these axes, these authors posit that developments in biomedicine and health sciences are fostering unique forms of authority, sociality, and subjectivity that center on new and contested understandings of human life (see also Rabinow 1996, 1999; Rose 2006; Rose and Novas 2004).

Frameworks of biopower shed much light on the social categories and normalizing practices of public health, but the role of animals in these processes remains less understood. Bridging this gap in understanding is urgent in a contemporary context in which zoonoses account for over 70 percent of diseases worldwide (Chomel et al. 2007). These animal-to-human infections require projecting concepts of biopower past the human realm, toward examinations of the ways that health systems define and administer the intersecting lives of humans and animals. This approach aligns with a growing body of research pointing to the importance of animals in processes of knowledge formation, social organization, and bodily regulation (Holloway and Morris 2007, 2009; Twine 2010). For example, understandings of human biological existence have long been predicated on animal models (Rader 2004; Serres 2008). In agriculture, the biological manipulation of animals has been shown to affect knowledge production as well as shape the evolution of humans and other species (Cronon 1991; Schrepfer and Scranton 2003). Moreover, along with increases in interspecies organ and gene transfer (Haraway 1997, 2007; Palsson 2009), animal-to-human diseases reveal humans' shared biological identity with animals (Hewlett and Hewlett 2008). When examined in agricultural settings, these diseases expose how humans and animals become dual subjects in health regimes whose measures are aimed as much at upholding political-economic systems as they are at safeguarding health (Donaldson 2008; Franklin 2001; Hinchliffe 2001; Law 2008). In interfaces where animals dictate life and death, zoonoses challenge the centrality of humans in the knowledge-producing mechanisms, intervention strategies, and bodily practices of biopower.

In this article, I take up the challenge of expanding biopower past the realm of human life, considering its applications to Vietnamese bird flu management, in which human existence is inextricably tied to animals. In a similar move, Celia Lowe's (2010:645) multispecies approach to avian flu shows how the H5N1 virus disrupted relationships among species, institutions, and nations in ways that reconfigured existing ontologies in Indonesia. Though her focus on the virus is provocative, Vietnamese bird flu interventions target poultry and its relations with humans, and so I focus on the people–poultry relationships that characterize HPAI control in the Vietnamese national context. Attending

to the diffuse nature of biopower, I examine several levels of public health: the discourses and authorities that direct bird flu management, the interventions that target people and poultry, and the ethical conduct between species that result. In keeping with Foucault (2000:263), I treat ethics as a mode of subjection whereby individuals identify themselves as subject to particular obligations or agreed-on standards. With regard to biopower, this includes the behaviors through which individuals act in the name of individual and community health. A focus on ethics in bird flu management modifies "ethopolitics," a concept used to describe governing strategies that shape individual self-regulation in terms of fixed codes. In the health arena, ethopolitics refers to the ways that authorities mobilize beliefs about biological existence to shape humans' conduct in relation to themselves (Rose 2006:27). Situations concerning multispecies existence require casting ethopolitics across species and exploring how human conduct is shaped in relationship *with* animals. I suggest that inasmuch as people and poultry are caught up in similar biological, political-economic, and historical transformations, their relationships do much to shape ethical practice in current health orders.

Analyzing ethical conduct from a multispecies perspective requires foregrounding how individuals interact with animals in historically specific situations. My concern here is not to explore broader debates about animal ethics that, when taken out of their material contexts, can lend themselves to ideological abstraction. Instead, this investigation follows Andrew Lakoff and Stephen J. Collier's (2004) interest in the local ethical formations that emerge within broader strategies for securing life. These authors develop "regimes of living" as a tool for analyzing the "congeries of moral reasoning and practice that emerge in situations that present ethical problems—that is, in situations in which the question of how to live is at stake" (Lakoff and Collier 2004:420). Highlighting the role of animals in moral practice shifts the analysis from questions of how to live toward questions of how to coexist or how to conduct oneself with animals.[3]

Multispecies biopower in Việt Nam

I begin this section with an empirical account of multispecies biopower in Việt Nam by examining (1) the discourses and expert authorities assembling around animal-to-human diseases, which take as their problem biological processes that cross species; (2) the interventions resulting from these discourses, which target collectivities of humans living with animals; and (3) the modes of subjectification arising from these interventions, in which self-government entails humans transforming their relationships with animals.

Power/knowledge: New truth discourses and authorities

Inasmuch as they expose and draw force from interspecies connections, zoonoses require inserting animals into truth discourses about human existence. Foucault (1990:143) writes that biopower brings life and its mechanisms into the realm of explicit calculations, so that knowledge acts as a source of power that transforms human life. In the context of avian flu, human existence and animal existence intertwine such that the knowledge used to manage human life must include considerations of animal life. Following recommendations from the United Nations, whose agencies stress the importance of fusing animal and human health expertise, the Việt Nam Integrated National Plan for Avian and Human Influenza calls for "an integrated, multisectoral response based on clear, shared objectives. Responses must address the animal health and human health dimensions as well as appropriate social measures" (NSCAI 2006a:4).

The overall objective of the national program is to reduce the risk of human infection by controlling the disease in domestic poultry. This entails inserting veterinary knowledge into a newly expanded public health system that seeks to administer multiple species. Multinational donor organizations and technical advisory groups are providing laboratory equipment and epidemiological courses for veterinarians and creating workshops on veterinary medicine for human health workers in Việt Nam's major cities (NSCAI 2006b:7). Most provincial and district-level people's committees *(ủy ban nhân dân)* have steering groups for avian influenza that bring together animal and human health workers to share HPAI surveillance information, discuss preventive measures, and make reports for the central government (NSCAI 2006a).[4] Additionally, the majority of NGOs with bird flu programs employ a veterinarian on staff or hire veterinarians as project consultants. The increased presence of veterinary expertise at all levels of bird flu management illustrates the integration of animals into biopower's knowledge-producing assemblages and regulatory mechanisms. Notably, these trends demonstrate broader shifts in state–society dynamics and emerging forms of multinational governance in Việt Nam, which have been profitably examined through civil society perspectives and anthropological critiques of development (Beresford and Luong 2003). In this article, I employ "biopower" as an analytical lens to understand how transformations in Vietnamese governing processes shape ideas and practices surrounding life itself. Penetrating multiple arenas of health administration—partnerships between public health and veterinary experts spanning local to multinational levels, technical instruments and training that bridge human and animal science, and surveillance activities that target multiple species—bird flu management takes as its problem the entangled lives of humans and animals.

Yet the insertion of veterinary expertise into human vital matters has not been seamless. Part of its inconsistency derives from intersections of national, global, and nongovernmental institutions in Vietnamese bird flu management, whose representatives disagree over the extent to which knowledge about animals can inform human health practice.[5] Many of the multinational technical advisors for HPAI have expertise in both veterinary and public health science. They share a conviction that a thorough epidemiological understanding of HPAI and its risks to humans requires research on disease occurrence and transmission in animals. In Việt Nam, where veterinary medicine is a low-status profession, animal and human health specialists are wary of translating expertise across sectors. For instance, a foreign, multilateral health institution tried to enroll human and animal health workers in a field epidemiology training program with modules on disease diagnosis and prevention across species. However, the program failed to recruit any animal health workers. Similarly, a multinational advisor whose project integrates human and animal health explained to me that there is a "lot of lip service as to how well we are doing but the reality is that it is very fragmented and not a lot. In real events the joint approach is very patchy."

This inconsistency exists even though Việt Nam's centrist government and well-defined state planning mechanisms have effectively institutionalized collaboration among human and animal health agencies. In fact, the country's intersectoral scheme emphasizing joint veterinary and human health responses is often held up as a blueprint for other avian-flu-affected countries to follow (McKenna 2006; Vu 2009). Human and animal health workers, agricultural extension officers, and other arms of government are connected not only by the physical proximity of their offices but also by long-standing social mobilization processes that bring them into cooperative brigades (Porter and David 2006). In other words, the bureaucratic integration of state agencies in Việt Nam is nothing new. What is new is how human–animal health integration upsets the existing knowledge orders that structure public health in the country. Here, state agents respond negatively to the proposition that human health workers learn to diagnose and treat animals and that animal health workers train to intervene on humans.

The struggles emerging in bird flu management point to a devaluation of animal health knowledge in comparison to human health knowledge in Việt Nam and to the fact that vets occupy a lower status than their human-oriented colleagues. Multinational bird flu advisors worked hard to overcome these divisions. For example, in an interdisciplinary workshop, an international veterinarian opined that in the event of an influenza pandemic, veterinarians could help vaccinate humans. He was met with laughter from Ministry of Health officials, one of whom mumbled, "Leave them to the pigs and chickens." In interviews, government officials, health workers, and citizens commonly suggested that veterinarians are failed medical students too slow to work with humans.[6] Given this hierarchy, animal health workers are reluctant to collaborate with human health workers, who can be patronizing toward them. Targeting biological links between species, bird flu management inserts veterinary knowledge into public health systems. This insertion, however, provokes conflicts over expertise that distend along species divisions.

These examples illuminate the growing but unstable role of animals in human health knowledge and illustrate the competing ideological positions and institutional practices emerging in bird flu management: multinational advisors seeking to bridge human and animal health sectors, state agents weary of translating knowledge, and citizens who are mistrustful of veterinary medicine and government workers (I share their perspectives below). Anthropologists and scholars of science and technology have demonstrated how public health knowledge and biomedicine exist in social milieus in which other forms of knowledge are always already operating (Cetina 1999; Clarke 1992; Lock 1993). In fact, infectious disease discourses have long been coopted by authorities in ways that exacerbate social differences and entrench local hierarchies (Anderson 2003, 2006; Briggs 2005; Farmer 1992, 1999). Evincing hierarchical divisions between species, bird flu management inserts animals in the processes that stratify expert knowledge and its related authorities. These trends challenge whether humans and animals can be placed under the same medical gaze.

Interventions: Multispecies collectivities and unintended others

Việt Nam's integration of human and animal health knowledge has shaped the avian flu strategies operating in the country. HPAI interventions place people and poultry into social groups on the basis of biological circulations, namely, the exchange of viruses. The objects targeted by biopower, then, are unique collectives composed of humans interacting with animals—novel multispecies collectivities characterized by shared biological states and risks. Lewis Holloway and colleagues (2009), for instance, develop heterogeneous biosocial collectivities to discuss how biopower targets interspecies interactions through genetic livestock breeding techniques and knowledge practices. Whereas this work critically demonstrates how biotechnological developments bring species into new arrangements that foster animal life, my analysis considers governing techniques and assemblages that safeguard the lives of both poultry and people. Zoonoses like bird flu expose interconnections between human and animal vitality, which require

Figure 1. A UNICEF avian influenza communications poster warns Vietnamese children against touching sick or dead poultry. Credit: United Nations Children's Fund, Việt Nam.

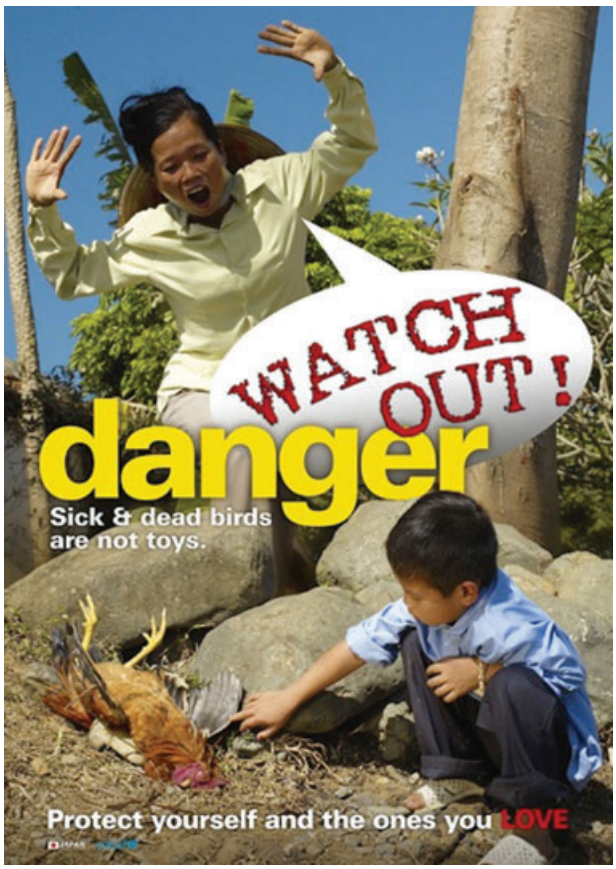

Figure 2. The English version of a UNICEF avian influenza communications poster suggests that Vietnamese children should not play with poultry. Credit: United Nations Children's Fund, Việt Nam.

unique techniques for evaluating, regulating, and fostering life across species.

Vietnamese bird flu interventions treat humans and poultry collectively, as living beings connected by biological and social practices related to farming, exchange, consumption, and recreation. Official bird flu discourses construe these practices as inherently dangerous, exemplified by a joint government–UN program communications poster for avian flu that reads, "Stay away! Danger. Don't touch sick or dead poultry. Inform local authorities immediately" (Figure 1). The image of a boy playing with a chicken points to biological and social links between species, which, the alarmed woman warns, is dangerous. Fueled by long-standing dichotomies between East and West, primitive and modern, pure and impure (Said 1979), the poster reflects broader discourses of perceived risks associated with close relationships between people and poultry in Asia (Lockerbie and Herring 2009). For example, a *Time* magazine article discussing the dangers of "Living Cheek by Beak" exposes Indonesians regularly sleeping with their birds (Walsh 2007). These dangers are made explicit by media images that depict a threatening intimacy among uninformed groups and their feathered companions. The English-language version of the joint government–UN program poster conjures this discourse. It reads, "Watch out! Danger. Sick and dead birds are not toys" (Figure 2).[7]

HPAI posters make visible Bruce Braun's argument that bird flu biopower conceptualizes the human subject in terms of a global economy of exchange and circulation. Braun (2007:7) challenges Rose's definition of biopower as an individualizing process by suggesting that infectious diseases throw bodies into a chaotic molecular world filled with emergent yet unpredictable risks. Indeed, bird flu interventions do not target individuals in isolation but, rather, individuals interacting *with* poultry. These interventions link human and animal vitality in ways that spur debates about proper conduct with animals. A growing body of research on biosecurity illuminates the indeterminacy of human–animal relations and exposes the intense negotiations that surround security interventions for zoonoses (Lakoff and Collier 2008). For example, in his examination of the mad cow crisis in the United Kingdom, Steve Hinchliffe (2001:200) posits that boundaries between humans and

nonhumans in agricultural–industrial spaces are not homogeneous but are sociable and thus open to change and political debate. The malleability of species boundaries became clear to me when Vietnamese farmers proclaimed that their close proximity and frequent interaction with poultry made them resistant rather than susceptible to HPAI. One farmer told me emphatically, "I can eat with my chickens and sleep with my chickens every night and not get sick. You Americans invented this bird flu problem, it doesn't affect us!" The chicken producer with whom I lived said frequently that Vietnamese farmers could not contract HPAI because they hang around poultry everyday. When I pointed to cases of Vietnamese people who were infected with the disease, farmers explained that the victims must have been in contact with relatives who had traveled abroad.

These proclamations are not unlike immunity theories positing that exposure to pathogens fosters disease resistance. What is important to note is that in explicitly delinking HPAI risks from interactions with poultry, farmers challenge bird flu interventions and set themselves apart from a different kind of dangerous other: people outside Việt Nam.[8] Whereas official bird flu discourses problematize interactions between people and poultry in matters of human existence, farmers use these very same interactions to assert their vitality and identity vis-à-vis others. Bird flu management thus provokes tensions surrounding appropriate ways to identify and engage with animals; authorities and citizens draw on different biological and territorial subjectivities to alternatively condemn and celebrate relations between species.

Figure 3. An avian influenza communications poster praises Vietnamese farmers who report poultry symptoms to veterinary authorities. The poster, developed by the United States Agency for International Development, was presented at a pandemic simulation event on July 15, 2009. Photo by Natalie H. Porter. Credit: USAID/Avian Influenza Mekong Region Initiative, implemented by Abt Associates.

Working on selves: Ethical conduct and regimes of coexisting

So far, I have highlighted the tenuous insertion of veterinary expertise into Vietnamese biopolitics and signaled contentious interactions between people and poultry in matters of multispecies existence. In this section, I explore the implications of these unstable knowledges for the actual practices of governing humans and animals to protect against bird flu. A central aspect of Foucauldian power is its diffuseness, or its ability to penetrate all levels of society down to individual subjects who are brought to work on themselves (see Foucault 1990). In public health, this power casts external health imperatives as personal interests through the establishment of social norms, habits, and desires to which individuals must aspire (Peterson and Lupton 1996). Vietnamese health policies and discourses entail novel forms of subjectification centering on interactions between people and poultry; work on the self involves working on, and with, animals. Put another way, bird flu management extends ethopolitics past the human by asking individuals to regulate their conduct *with* poultry, under veterinary authority, and in the name of their collective health. That bird flu discourses couch directives for ethical conduct in terms of the collective health of people and poultry suggests that bird flu governance entails more than merely disciplining humans with respect to dangerous things. Unlike objects (alcohol, cigarettes, or motorbikes), poultry are commodities as well as living beings that not only cause but also suffer from diseases that affect humans. This is not to suggest that agency is limited to living organisms or to posit that fowl are necessarily knowing subjects. Rather, I highlight poultry vitality to demonstrate its unique entanglements with human biological existence. The links between poultry and human vitality mean that protecting human lives and livelihoods requires caring for poultry life, or assuming unique obligations with regard to poultry. Further, poultry's centrality in practices of the self creates space for negotiating relations between citizens and state agents, which the examples that follow explore in detail.

A poster created by USAID in Việt Nam illustrates the will to govern humans and animals collectively by regulating interspecies interactions (Figure 3). The poster was

created for a behavior change campaign that encouraged people to immediately report sick or dead poultry to veterinary authorities. In the illustration, one farmer tells another, "I always immediately notify the veterinarian when my chickens and ducks show strange symptoms." His companion replies, "If we were all like you, the whole neighborhood would be thankful." The poster contains a moral directive exhorting the reader to protect his community by voluntarily subjecting himself and his poultry to the scrutiny of a veterinary authority. The tie between human health, animal health, and veterinary authority is made again in the statement below the image, which reads, "The health of the community is a priority, immediately report poultry illness to a veterinarian." The USAID poster impels ethical practices that hinge on interactions with animals. The exemplary farmer points out shared risks between people and poultry and encourages his neighbors to act in the name of an interdependent, multispecies collective that is reinforced by words surrounding the emblem in the poster's lower right corner, "Care for poultry, a healthy community." What is striking is how the poster links an individual's responsibility to the community to care of flocks and encourages farmers to transform themselves into good neighbors by regulating their conduct *with* poultry. In the context of bird flu, in which lives and livelihoods are intertwined, subjectification means self-regulation vis-à-vis animals—under the watchful eyes of veterinarians.

Notably, the USAID poster took over six months to develop and went through several focus group discussions to ensure credibility among rural Vietnamese. One issue that literally sent the poster back to the drawing board was the illustration of the poultry. It took time to get the animals to look healthy without also conjuring images of oversized industrial breeds that rural Vietnamese not only find soft and dry but also associate with urban dwellers, chemical inputs, and disease. That only certain types of ducks and chickens belong in rural communities points to the multispecies collectivities in which people and poultry exist in Việt Nam, collectivities that may or may not coincide with those proffered by multinational bird flu discourses and interventions.

However, like the various agents in Việt Nam's health sector described above, farmers resist the insertion of veterinary authorities into their production practices. The USAID poster's exhortation to report disease is a response to the rarity with which farmers consult state vets about matters affecting poultry (NSCAI 2008). The farmers I spoke to were confident about their ability to safeguard the health of their poultry, relying on several tools to diagnose and treat illness: phenomenological experience, livestock handbooks, and the advice of experienced neighbors and relatives. Further, as I describe below, farmers pride themselves on healthy flocks and at times evaluate their neighbors' character on the basis of the state of their birds. The visual links between poultry vitality, community health, and veterinary authority thus point to the central role that animals play in ethopolitics, or the morally informed practices through which individuals conduct themselves responsibly (Rose 2006:27–29). However, these links also signal dilemmas over whose authority counts when practices of the self occur in interactions with poultry.

Farmers also avoid reporting poultry illness to veterinarians because bird flu prevention measures have required vets to cull thousands of birds at singular reports of illness. These culls often preempt laboratory testing for the H5N1 virus, and many farmers shared anecdotes about healthy flocks that were culled because of a few (H5N1-unrelated) poultry deaths in the area.[9] How can we understand preventive culling when bird flu interventions ask individuals to act in the name of the collective health of themselves and their poultry? Avian flu policy justifies sacrificing some poultry (whether infected or not) as a safeguard against further poultry deaths and the risk of human infection. However, this instrumental form of reasoning faces contestation in local settings.

Lakoff and Collier (2004:425) suggest that regimes of living constantly provoke new ethical questions as concrete forms of technological reason enter into dynamic and often problematic relations with local values. A farmer considering whether to report poultry illness to veterinarians may choose to protect his birds from preemptive culls. Farmers may employ a reasoning that places value on existing experiential and interpersonal forms of care rather than on objective and instrumental killing. This is not to deny that killing is part and parcel of everyday human–animal interactions in poultry-producing communities, but the circumstances under which killing takes place determine the economic and moral value of animals and affect the lives and livelihoods of farmers. A chicken killed at the height of health ensures taste and profit, engenders relationships between producer and consumer, and increases a farmer's social standing. In contrast, a chicken killed because of threatening diseases loses its value as both a food commodity and a generator of market relations and thereby compromises a farmer's reputation. When the existence of more than one species is at stake, the question of how to live becomes more complicated. The entangled lives of poultry and people raise ethical dilemmas over the terms of inclusion in multispecies collectives.

Making subjects across species: Withholding and stealing poultry

How do these ethical dilemmas between species manifest in practice? Here, I consider two cases in which biopower failed to discipline human–poultry interactions. In the first case, farmers withheld chickens from a national

vaccination program, and in the second a community seized chickens from a veterinary cull. The strategies of withholding and stealing chickens reconfigured biopower by mobilizing existing rural moral practices surrounding the role of animals in Vietnamese knowledge hierarchies, village economies, and notions of individual worth. Focusing on these two sites foregrounds the mundane, "fleshy historical realities" through which humans become subjects in relation with animals (Haraway 2007:66).

Withholding poultry from corrupt veterinarians

As noted above, my research surveyed the effects of bird flu management on human–animal relations in two poultry production sites in Việt Nam. Part of this work involved living with a family of chicken farmers in a rural commune north of the Vietnamese capital.[10] I became close to several poultry-raising families in this commune, with whom I concentrated the bulk of my interviews, conversations, and participant-observation. Common to these households was a mistrust of government officials and state veterinarians.[11] Farmers particularly resented a state-mandated H5N1 vaccination even though the vaccine was supposed to be administered free of charge to smallholders (those with fewer than 500 birds). Those families who raised birds to supplement farming income did not participate in the vaccinations, preferring to conceal their poultry ownership from the commune veterinarian to avoid the process altogether. Concealment was relatively simple in this area because, although commune veterinarians were required to keep updated records on the numbers of poultry under their jurisdiction, they tended to rely on citizens to report these numbers to them rather than conducting surveys on their own.[12] Small-scale farmers were not concerned about being reprimanded for withholding their birds from veterinary census, claiming that, "They [vets] never come around here anyway." Some farmers argued that small flocks are invulnerable to bird flu or that they did not have time to get birds vaccinated. The most suggestive explanation for vaccine resistance came from Thủy and Trí, the farmers with whom I lived.

Thủy and Trí actually vaccinated their chickens, whose eggs were their primary source of income. However, they preferred to administer their vaccinations independently of state-employed (commune) veterinarians, and, for larger jobs, they recruited family members to assist (Figure 4). In the case of bird flu, the only disease requiring a certificate of vaccination (if one plans to transport poultry over district boundaries), Thủy and Trí hired a private veterinarian to observe, assist in, and verify the process. Like many of the farmers I met, Trí complained that Duy, the commune's veterinarian, had theoretical knowledge *(lý thuyết)* about poultry but no sense of the practical experiences *(kinh nghiêm thực tê)* of poultry production. He also stated

Figure 4. Thủy, Trí, and family vaccinate chickens against Newcastle disease, Bắc Giang province, northeastern Việt Nam, June 18, 2009. Photo by Natalie H. Porter.

that state veterinarians are corrupt. For instance, one night I told Thủy and Trí that a state-employed veterinarian in a neighboring commune was about to retire and thus only worked sporadically in her capacity as a veterinarian. Thủy huffed, "It's not because she's about to retire, it's because she's a state cadre *(cán bô)*. They're all like that; they're never interested in farmers. I bet if you asked her how many chickens are in her commune, she won't be able to tell you! They have no idea what goes on with the farmers."

Thủy then pointed to a census of poultry numbers in their hamlet that Trí had compiled and was planning to submit to Mr. Duy, the commune vet, and said, "Look at this list Trí made, see? We have to make these lists ourselves. The vets have to ask *us*! Mr. Duy is the same way. We know better about what medicines to give, and we go and buy them ourselves. They don't give us any help with farming." Trí agreed:

> The state vets don't ever come to see us or help us . . . I don't want to speak ill of people but the people's committee is really corrupt; they keep all the resources for themselves and don't interact with farmers. They even take things that the government sets aside for the people and resell them. Mr. Duy does that. The government gives free bird flu vaccines to the people but he doesn't distribute it to us. He resells it instead. He's a certified sales agent, you know. All of the state vets have their own shops and sell the stuff from the government to make their own profit.

Thủy and Trí's story is revealing in light of the questions I posed at the beginning of this discussion: How are humans and animals targeted collectively in bird flu interventions? What are the implications of this type of multispecies governing for the making of ethical subjects? Starting with

the first question, Việt Nam's national vaccination policy targets humans and animals in conjunction. First, household heads write their names down alongside the numbers of birds they keep. In this way, farmers and poultry are dually enrolled in census data that comprise the statistics crucial to Foucauldian biopower. Here, biopolitics acts on a multispecies body, or on a population composed of people and poultry.[13] Second, farmers and poultry undergo bodily discipline; the farmer must bring his flock to vaccination centers, and each bird must submit to injection. Here, anatomopolitics acts simultaneously on the bodies of humans and animals. Keeping poultry alive and healthy through bodily intervention, then, is crucial to governing mechanisms that safeguard human health. In this way, biopower demonstrates its penetration of individual subjects. Individual farmers are supposed to internalize this process by voluntarily submitting themselves, *with* their poultry, to the data-gathering mechanisms and probing instruments of bird flu biopower.

However, in turning to the second question, Thủy and Trí's story signals interferences in local settings that reveal much about the relationships between farmers, poultry, and veterinary agents. Prior to bird flu outbreaks, state veterinarians had little involvement with the chicken farmers I worked with because the financial losses to poultry illness and death are generally lower than the cost of professional diagnosis and treatment. In the past, farmers exercised the right to choose when and how to interact with veterinarians, and they generally devalued vets' knowledge vis-à-vis their own experience and that of their neighbors. Importantly, farmers did not reject veterinary knowledge as a means to safeguard animal health. Those I spoke to shared a high regard for veterinary expertise. For example, Trí's uncle Đôn studied veterinary medicine for several years. Though he did not work professionally as a veterinarian, he often fielded phone calls and visits from farmers with questions about unusual poultry symptoms. When I asked farmers why they sought out Đôn, I found that he derived his influence from both formal education and years of practical experience raising chickens. Rural farmers value experience as a source of knowledge and authority with regard to poultry and often pointed out that, unlike village experts, state veterinarians only raise a handful of birds. It is thus not veterinary expertise that farmers found objectionable but, rather, the idea that a state agent possessed expertise that outweighed their own. Within local hierarchies of knowledge, authority lay in the hands of farmers themselves.

The reasoning through which farmers valued practical over theoretical knowledge involved interactions with poultry that did not cohere with bird flu policy. Farmers frequently justified withholding poultry from state vaccinations through the language of health, telling me that the state vets do not vaccinate carefully or thoroughly.[14] Those who did vaccinate, like Thủy and Trí, sought out a private veterinarian and trusted, experienced relatives to complete the job instead. By withholding chickens from state vets, farmers subjected themselves and their birds to a different kind of authority, one formed through existing knowledge hierarchies and local relationships of trust. Farmers acted in the name of health but nevertheless carved out modes of coexisting with chickens that interfered with bird flu biopower (Bingham and Hinchliffe 2008). In this way, they signaled responsibility to alternative obligations and inserted different ethical configurations into health orders.

Further, through these withholding practices, farmers drew on a moral economy in rural Việt Nam in which people claim ownership of the means and products of their labor, sometimes in opposition to state directives. In the late 1950s, for example, when the Communist Party collectivized the means of production across the country, household farmers protested by neglecting to care for communal land and tools (Scott 1976). When the economy worsened in the late 1960s through the 1970s, some northern and central Vietnamese villagers altered production arrangements by expanding their private plots and refusing to turn their animals over to cooperatives (Fforde 1989; Kerkvliet 1995; Vickerman 1986). Older residents in the commune described the period of collectivization as a time of suffering and privation, juxtaposing it to the present day, in which they have not only enough to eat but also the opportunity to expand land holdings and livestock ownership. For example, Trí's father prided himself on being the first person in the hamlet to have begun chicken farming after decollectivization, and he was considered to be the foremost expert on chicken rearing in the commune.

A historical memory of collectivization as an affront to animal-keeping rights compounds the ethical dilemmas posed by bird flu management, which asks farmers to again hand their birds over to state agents. Inasmuch as farmers saw them acting immorally by vaccinating carelessly and reselling the people's property (state-provided vaccines), state veterinarians threatened farmers' rights to safeguard animal health as hard-working poultry owners and caretakers. As Donna Haraway (2007:100) writes, "becoming with animals" means inheriting shared histories that require ethical responses. In this multispecies framework, withholding poultry is a historically informed act that upholds existing village economies, knowledge hierarchies, and relations of trust.

Stealing poultry from a bird flu cull

In the predawn hours of February 5, 2009, approximately one hundred villagers from Thường district south of Việt Nam's capital congregated around a large pit hastily dug into the earth. Adjacent to the pit stood a truck containing over 1,500 chickens "of dubious origin," apparently smuggled from China (Associated Press 2009). Officials

Figure 5. Man removes poultry from a culling pit in Thường Tín district, Việt Nam, February 5, 2009. Credit: *Báo An ninh Thủ đô* (*Capitol Security Newspaper;* www.anninhthudo.vn).

Figure 6. Vietnamese villagers steal chickens that are about to be culled as a bird flu prevention strategy, February 5, 2009. Credit: *Báo An ninh Thú đô* (*Capitol Security Newspaper;* www.aninhthudo.com).

had detained the truck because the drivers were unable to present papers documenting the origin of the poultry or providing proof of H5N1 vaccination.[15] In accordance with national avian flu policy, the chickens were to be culled as a preventative measure against bird flu regardless of any indication of illness. District veterinarians had sprayed the birds with disinfectant chemicals and, along with police and other officials, had begun to toss them into the culling pit when the villagers overtook them. Jumping onto the truck and into the pit, villagers took off with over 1,000 birds, about two-thirds of the flock (Figures 5 and 6). According to the director of the Department of Animal Health in Hà Nội, this was not the first time that people had stolen poultry to be culled by officials (Ngân 2009). One official summarized, "They grabbed the chickens from us, and we were overwhelmed" (Agence France-Presse 2009). Nine individuals were eventually arrested in connection with the incident.

Figure 7. A Vietnamese editorial cartoon depicts a chicken seizure as an act perpetrated by dehumanized villagers. Their T-shirts read "ignorant" and "greedy." Credit: *Báo An ninh Thú đô* (*Capitol Security Newspaper;* www.anninhthudo.vn).

In addition to disciplinary measures, the incident spurred several social commentaries on the role of civic duty, ignorance, and poverty in Vietnamese public health. While one international news report declared that the villagers were "desperate for the income the birds could provide" (Agence France-Presse 2009), Vietnamese news sources took a less sympathetic view. An editorial in a state-controlled newspaper expressed the official public health perspective: that safeguarding human health means subjecting oneself and one's poultry to a stronger and more responsible veterinary authority. The editorial asked, "Why, in spite of these known risks, do people fail to acquiesce to culls? Why are officials uninterested in preventing disease? If we want to succeed, we must consider people's consciousness, because we are talking about the fight to protect our health and our lives." The author suggested allowing the looters to eat the "infected" chicken and, in fact, encouraged them to invite the authorities in charge of the culling to a private meal. A cartoon accompanying this commentary depicts two monkeys fleeing from a truck with skulls emanating from it, smiling as they take off with armfuls of chickens. The monkeys wear T-shirts reading "greedy" and "ignorant" (Ngân 2009; see Figure 7). Inasmuch as it calls for the death of animalized poultry appropriators, the editorial encapsulates how bird flu management generates fierce conflicts over who or what gets included in multispecies collectivities.

The commentary also reflects that bird flu management occurs alongside a shift away from household farms toward commercial operations in Việt Nam's poultry

industry. HPAI-control strategies seek to prevent outbreaks in humans and animals through measures that aim to accelerate the growth and modernization of poultry production in the country (NSCAI 2006b). The scathing editorial shows how these intersecting trends devalue small-scale producers as backward, dispensable relics. One transnational veterinary advisor explained their exclusion to me in a similar vein, "The entrepreneurs with the necessary resources will develop their farms for disease control while the others will eventually disappear."

Taken together, the culling incident and its aftermath demonstrate attempts by state and multinational authorities to both define and govern preferred multispecies collectivities. Descending on the scene with police backup, vets confiscated poultry from transporters with the intent of destroying animals destined for exchange and consumption. Health administration here centered on preventative measures aimed at human bodies intertwined with animal bodies. In a preemptive measure to safeguard human and animal health, state agents attempted to cull the chickens, prohibited transporters from moving the poultry to market, and cut vendors and consumers off from exchange and consumption practices. In other words, these events generated a relationship of power between joint human–animal subjects and the authorities intent on governing them. However, as in the vaccination case, culling encountered interferences deriving from alternative forms of reasoning and practice.

Culling operations have been riddled with controversy since their introduction as an "emergency response" to HPAI outbreaks. Between 2003 and 2004, measures that culled all flocks within a one-kilometer radius of HPAI outbreak sites resulted in the destruction of 44 million birds. However, this policy soon proved too costly and difficult to implement. In addition to the direct costs of culling, farmers demanded compensation for their animals, which represented a major fiscal burden on local government offices.[16] Farmers had also shown themselves unwilling to surrender apparently healthy birds to authorities. Several incidents occurred across the country in which farmers absconded with and stole fowl destined for culls. As a result, the government implemented a new policy that targeted high-risk flocks in the immediate vicinity of infected farms. At the end of 2005, the government further relaxed measures by instituting voluntary culling with compensation in the event of a local outbreak.

But, in contrast to changes in culling policy that affect farmed flocks near outbreak sites, transported flocks such as the one described here continue to fall under stricter standards; without proper documentation, mobile fowl are subject to culls (Otte et al. 2008:28). What could possess over 100 people to openly defy police and other authorities in a society where resisting the state is severely punished? Given the editorial's exhortation to consider "people's consciousness" in the fight to protect "our health and our lives," the first question to ask is, whose health and whose lives are being protected by bird flu policies?

Media accounts failed to report on villagers' motivations for stealing the chickens. From a moral-economy perspective, villagers might have been relating to poultry as political tools for claiming their rights to livelihood. However, my research indicates that farmers were uncomfortable with preventive culls for multiple, sometimes conflicting, reasons. Though I did not speak to the perpetrators in Thường Tín, I asked poultry producers and vendors in the neighboring province where I conducted my fieldwork about their views on theft. This province, along with several others, had also experienced poultry seizures at culling sites. Although nobody I spoke to admitted to stealing poultry slated to be culled, farmers whose birds were destroyed because of local outbreaks recalled feeling despair at the loss of the animals, which are sources of income as well as valued products of hard work and care. I was told, "People here, especially those too old to work in the fields, raise birds for the feeling of being productive *(tình lao động)*. It's a way to work, that's what they mean when they say they enjoy raising chickens." Common phrases used to describe an exemplary poultry farmer were "strenuous" or "hard working" *(vất vả)* and "exacting" or "careful" *(kỹ)*, and their poultry was often labeled "beautiful" *(đẹp)*.

It is no surprise, then, that many farmers spoke of preventive culls regretfully (sometimes angrily), particularly when they affected good farmers. One older gentleman who shared his feelings noted that "Mr. Châu over there, he raised beautiful chickens, really plump and spry. They came and killed them all. It was a real shame." Importantly, when chickens died on farms operated by those known to be careless about poultry raising, neighbors showed little sympathy. For example, a farmer in the commune where I lived had a reputation for drunkenness and laziness. When 200 of his chickens died of avian pox, his neighbors gossiped that the deaths were inevitable because he was not careful with his birds and they were always sick. Some warned me not to visit his home for fear that I would fall ill. Tellingly, Trí complained that farmers like his neighbor did not take responsibility *(không có trách nhiệm)* for their birds. From these statements, the "desperate for money" media explanation falls short, overlooking other forms of animal worth that may have motivated the theft.

Indeed, many farmers I spoke to subjected themselves to obligations in which being a respected neighbor requires conducting oneself responsibly in relation to poultry. Farmers who cared for chickens constituted themselves as ethical subjects, upholding a standard of hard work in their interactions with poultry that should not be underestimated in a society infused with Marxist–Leninist principles and

a long-standing idealization of rural life (Luong 1992; Tai 1992). Sharing in and embodying a farmer's valorous labor and experiential expertise, farmers placed chickens under their own care and authority. Multispecies coexistence in Việt Nam is rooted in a code that links animals to individual worth and social standing. Existing strategies for coexisting thus oppose the instrumental, rational, and arguably draconian culling policy.

I emphasize that the farmers I spoke to did not find culling objectionable because it caused poultry death. Rather, they rejected this form of death as negating the moral, economic, and alimentary value of their animals. Adopting the official term for culling (*tiêu hủy,* destruction), farmers distinguished this practice from killing for sale and consumption (*giết mổ,* slaughter). *Destruction* is a particularly apt term for expressing farmers' views of culling as a practice that strips poultry of its biosocial worth. One phrase I heard several times over the course of my research was, "Everything is lost with culling" [*Tiêu hủy mất hết*].

Further, in pointing to the pride that rural dwellers take in producing healthy poultry, I do not intend to underestimate economic motivations for the theft. In fact, despite deriving moral authority from healthy flocks, Vietnamese poultry producers commonly trade sick fowl with their neighbors. Several global health workers I interviewed expressed concerns about an established practice in Việt Nam wherein farmers quickly slaughter and sell off diseased flocks to turn a profit before the animals die. Similarly, when discussing the chicken theft, several villagers opined that the perpetrators would sell the animals in neighborhood markets. One referenced a local adage to explain: "Sell fat chickens afar and dry old chickens to your neighbors" [*Gà béo bán bên Ngô, gà khô bán làng giêng*]. These examples illustrate how multispecies collectivities entail diverse, sometimes contradictory, forms of ethical conduct that do not always align with the rationales and techniques of bird flu management.

Conclusion

Following current strategies to integrate humans and animals in global health policy and practice, in this article I have reconceptualized biopower as a multispecies project. Rather than examining how humans are governed as animals or through animals, I have focused my analysis on the ways that humans are governed collectively *with* animals. This approach foregrounds entanglements across species to interrogate the very object of a "One Health" paradigmatic order. Moreover, examining multispecies collectives provides the necessary framework for understanding the changing parameters of ethical subject making in light of humans' shared vitality with animals.

"One Health" interventions emphasizing the interdependence of humans and other animals encounter existing political and moral economies that hinge on species divisions. Vietnamese bird flu policies insert animals into knowledge-producing and regulatory apparatuses concerned with an expanded concept of health that crosses species. However, local hierarchies of expertise tend to devalue animal health in comparison to its human counterpart and prompt tensions among state and multinational actors who differentially assess public health science and veterinary medicine. Though site specific, these tensions reveal the growing but unstable role of animals in the truth discourses of interdisciplinary "One Health" orders. Further interferences emerge in health practices that insert animals into human vital matters. Vietnamese avian flu strategies demonstrate how health experts discursively locate humans and poultry in communities connected by "risky" biological circulations. Farmers reformulated these circulations by celebrating their interactions with poultry as a safeguard against, rather than a vulnerability to, disease. Turning intervention strategies on their head, farmers posited alternative biological links between species and spurred debates about what constitutes appropriate conduct when living with animals.

Finally, human–animal interdependence and interactions shape the disciplinary practices of biopower. Bird flu interventions subjectify humans *with* their animals under veterinary authorities, imploring individuals to transform their conduct with poultry in the name of their collective health. In other words, becoming subjects in bird flu biopower means engaging in work on oneself in relation to poultry. While these modes of subjectification ostensibly protect both humans and animals, in practice, avian influenza policies provoke dilemmas surrounding whose lives and livelihoods are worth protecting in multispecies biopower—particularly when they are implemented in historically and culturally specific situations. Two such situations provide empirical examples of the ethical dilemmas spurred by multispecies biopower. By withholding and stealing chickens from veterinary authorities, individuals and communities acted according to heterogeneous codes surrounding the place of animals in local knowledge hierarchies, village economies, and notions of individual worth. Mobilizing these codes in their strategic interactions with animals, actors interfered with bird flu policies. In doing so, they carved out ethical configurations in which humans and animals coexist under alternative forms of authority that resonate with historical memory and local social relationships.

This analysis does not condone or condemn withholding and stealing chickens. Rather, examining these cases focuses attention on the locally specific, historically situated sites of ethical conduct involving humans and animals. Haraway (2007:27) calls these sites "contact zones,"

risky spaces where species become available to one another and to the events surrounding them. Indeed, the chickens and villagers in these stories are not necessarily ethopolitically intertwined prior to or outside the moments of concealment or theft. Chickens are many things in addition to the targets of biopower and embodiments of moral worth described here. They are meat; they are commodities; they are biotechnologies; they are fighting cocks; they are friends; they are viral loads. The forces that determine an individual's conduct with poultry are therefore not always motivated by ethical concerns. But at these sites of concealment and thievery, chickens and villagers became entangled in momentary and contingent reconfigurations of bird flu biopower. Examining these interspecies entanglements thus begins the crucial task of reflecting on and refashioning how to live with animals in a "One Health" order.

Notes

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1. Though efforts to integrate human and animal health began in the 1990s amid concerns about emerging and reemerging infectious diseases, the quick succession of SARS and avian influenza brought new urgency to these efforts. In direct response to avian flu in Việt Nam, the WHO, the Food and Agriculture Organization, and the World Organization for Animal Health created a global framework for addressing the interface of humans, animals, and ecosystems (FAO-OIE-WHO Collaboration 2010).

2. *HPAI* refers to the AH5N1 strain of avian influenza that appeared in Southeast Asia at the end of 2003. In this article, I use *HPAI, avian influenza, avian flu,* and *bird flu* to refer to this strain.

3. This analysis upholds anthropological arguments for the identity-making aspects and transformative power of human–animal relationships. In descriptions of humans sharing kinship with animal persons (Cormier 2003), inhabiting the perception and bodies of animals (Kohn 2007; Willerslev 2004), and engaging in exchange relations with other species (Bird-David 1993; Brightman 1993; Nadasdy 2007), anthropologists ethnographically support challenges to human exceptionalism (Derrida 2008).

4. This committee has expanded to include all zoonoses and has been renamed the Committee to Prevent Zoonoses.

5. Frederic Keck (2008) finds similar conflicts between human and animal health experts responding to mad cow disease and bird flu in France, where scientific interests confront other regimes of normativity.

6. Their responses may stem from the idea that animal health is considered everyday, practical knowledge in rural Việt Nam. Veterinary practice is often described as ordinary, *bình thường,* and most local veterinary agents have undergone one year of formal training. Conversely, human health knowledge is rooted in the technical and largely written traditions of Vietnamese medicine and global biomedicine.

7. The image reflects growing rural–urban divisions in Việt Nam, and emerging cosmopolitan sensibilities that often criticize and alienate rural lives and livelihoods (Nguyen and Thomas 2004; Truitt 2008).

8. These sentiments echo discourses of blame in Asia that emphasize the foreign nature of swine flu (Mason 2010).

9. This strategy also puts state veterinarians under tremendous political and social pressure to control disease in their communities. For example, if an outbreak occurs in a commune, the local veterinarian may have to pay reparations or face disciplinary measures from the people's committee. My research revealed that the average commune veterinarian's daily workload has nearly tripled as a result of national bird flu policies. These responsibilities are extremely difficult for veterinarians to manage on salaries averaging less than 50 U.S. dollars per month, and make their commitment to implementing bird flu policies intermittent at best (NSCAI 2008:iii).

10. Việt Nam is divided into territorial administrative units organized hierarchically from households to hamlets, communes, districts, and provinces. I lived in a commune comprising eight hamlets with 100–200 households each.

11. In Việt Nam, popular resistance to domestic and foreign authorities continually mobilizes around critiques of agricultural policies and productive relations (Beresford and Luong 2003; Kerkvliet 1995; Marr 1981; Vickerman 1986).

12. Veterinarians rely on farmers to report poultry numbers for several reasons. First, farmers often buy chicks in unpredictable numbers at unpredictable times. Second, on any given day, a farmer may lose one or more birds to illness, old age, or predators. Third, farmers sell birds in large numbers for events such as weddings and funerals or in small numbers to feed guests or a sick child. Keeping track of these mercurial numbers would be a full-time job. That said, households who raise birds as a primary source of income generally keep more or less reliable counts of birds, and most local vets (as both state agents and community members) can maintain general estimates of these holdings.

13. More than mere records of property ownership, censuses aim to intervene in and optimize the health of multispecies populations. On an anatamopolitical level, censuses provide information for local officials to govern people and poultry, allowing them to document the numbers of living poultry bodies such that they can be probed, safeguarded, and enhanced with vaccine measures. On a biopolitical level, censuses enroll poultry and farmers in global disease surveillance networks that gauge the overall health of national poultry populations and guide policies to safeguard humans against infection.

14. Withholding poultry from vaccination is a simple and tacitly accepted practice in Việt Nam (CARE International Việt Nam 2006).

15. Notably, the chicken seizure occurred amidst a 2009 controversy surrounding melamine poisoning in Chinese eggs, which exacerbated long-standing fears about contaminants in agricultural products from Việt Nam's northern neighbor.

16. Compensation rates for culls vary in accordance with the capacity of individual provinces, but rarely exceed 20 percent of the animal's market value (CARE International Việt Nam 2006).

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