

Viral sovereignty

Security and mistrust as measures of future health in the Indonesian H5N1 influenza outbreak

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Abstract

In the mid-2000s, Indonesia became ‘ground zero’ for an outbreak of highly pathogenic avian influenza, the H5N1 strain, which global health experts feared would cause a devastating pandemic. When asked to participate in global health measures, Indonesia’s minister of health argued that the country had ‘viral sovereignty’ and refused to share samples with the World Health Organization’s Global Influenza Surveillance and Response System. The global health community claimed, in response, that such refusal put all humanity at risk. Both sides of the debate expressed paranoia, resentment, and mistrust as their different ideas of security came into play. In the midst of these accusations and counteraccusations, little attention was paid to the larger social and ecological context in which the virus had emerged and flourished. I argue that when vital matter gets taken up within frameworks of security, human and animal bodies, narratives, and politics get scripted through concerns for biological and political vulnerability. Paranoia, resentment, and mistrust resonate as the multiple vulnerabilities of bodies and their social positioning frame uncertain futures.

Keywords

H5N1 avian influenza, Indonesia, security, paranoia, viral sovereignty, future health

A post-humanist, realist ontology is not an anti-human ontology, but is rather an ontology where humans are no longer monarchs of being but instead are among beings, entangled in beings, and implicated in other beings.

– Levi Bryant, *The Democracy of Objects*

At the turn of the twenty-first century, the United States was awash in biocentric fears: Iraq had been falsely accused of stockpiling biological weapons; anthrax had been sent through the US mail, killing five; and the United States was vaccinating health care professionals in anticipation of a weaponized smallpox attack. Across the global North, biological security was being articulated most prominently in relation to issues of bioterror and biodefense, novel disease emergence, food safety, and invasive species. On the other side of the globe, the H5N1 avian influenza, or ‘bird flu’, had emerged in Indonesia and was being viewed as a possible pandemic and a threat to American civilization.¹ As Americans were ‘prepping’ for apocalypse, the use of hand sanitizer became widely adopted, a popular, everyday response to pandemic risks inherent in the infrastructures of globalization (Kim 2015).

Global humanitarian governance is intended to supersede the sovereignty of the state, yet organizations like the World Health Organization (WHO) require the permission and cooperation of donor nations to work within their borders. As H5N1 influenza spread, Indonesia was asked to participate in pandemic preparedness, share disease samples, and other technomedical activities, which required it to turn its attention away from its own pressing concerns, like eradicating malaria and dengue fever. Indonesian institutions were expected to adopt this new securitized approach to health, that is, to anticipate future events and help prepare and secure the global bios rather than focus exclusively on the well-being of Indonesian citizens.² Pandemic preparedness included separating humans and livestock from microbes whose increasing virulence was presumed to be natural, rather than, for example, a consequence of human systems of modern agriculture. But Indonesia resisted being interpolated into the security framework championed by the global health community, partly on the grounds of national sovereignty. And when Indonesia rejected these Northern

1 Director of the Center for Biosecurity of the University of Pittsburgh Tara O’Toole said: ‘What we are talking about is not just another health issue – it is a nation-busting issue’ (Greger 2006, 357).

2 At an International Ministerial Pledging Conference in Beijing in 2006, US\$1.9 billion were raised (primarily from the United States and Europe) to fight pandemic influenza. The money would be used for surveilling human and animal disease, altering agrarian practice, compensating farmers whose poultry were culled, improving laboratory and health services, and communicating outbreaks (Cheng 2006).

forms of securitization,³ many in the global health community became skeptical of the country's sincerity and competence.

Throughout the mid- to late 2000s, as the effort to stop H5N1 influenza from turning into a global pandemic advanced, I conducted multisited fieldwork in the worlds of Indonesian microbiology, security, and agriculture, seeking to understand transformations in the approach to viral outbreaks. Work in postcolonial science studies shows that it makes a difference from whose standpoint scientific questions are raised (Hayden 2003; Lowe 2006; Tallbear 2013). What happens as Northern fears and forms of securitization slide across disparate spaces and are introduced in other, non-Northern places, like Indonesia? Scholars working in science and technology studies argue that how we attempt to know vital matter, and how the material world responds, is also important (van Dooren 2016; Lowe and Münster 2016; Tsing 2015). What happens when we view viral objects through the lens of security instead of human or animal care? In the Indonesian H5N1 outbreak, one important result was that many Indonesians began to resent the international intervention and believe it was irrelevant to the health of their own population. Some even viewed it as a conspiracy to dominate Indonesia. Others in the international global health community viewed Indonesian statements about sovereignty as a form of illegitimate self-interest. Looking at the case of Indonesia, we can see that the work of grappling with the viral object suffered in important ways. Relations between humans, animals, and microbes and issues of how we are 'among beings, entangled in beings, and implicated in other beings' were ultimately exhausted by their embeddedness in issues of human identity and resentment (or '*ressentiment*').⁴

Measures of security and health in Kabanjahe, North Sumatra

In August 2006, Indonesia's Minister of Health Siti Fadilah Supari, Coordinating Minister for People's Welfare Aburizal Bakrie, and Agricultural Minister Anton Apriyantono arrived in the hamlet of Simbul in the village of Kabanjahe, North Sumatra. Stepping out from their vehicles, they quickly dressed in the white Tyvek suits, face masks, and protective eye goggles they had brought with them as measures of individual biosecurity. They were there to inspect the culling of poultry in the vicinity of a group of human H5N1 cases known as

3 The origins of securitization can be traced to different moments in time. Peluso and Watts (2001) have traced it to the end of the Cold War, while Collier, Lakoff, and Rabinow (2004) have linked it to the birth of the genome sciences.

4 *Ressentiment* is Nietzsche's idea that 'slave revolt' begins when resentment becomes a creative force. He views slave morality in negative and reactive terms originating in the denial of what is different from it.

the ‘Karo cluster’ (Butler 2006; Sipress 2010). While there were no reported cases of H5N1 in Simbul, this area was under heavy surveillance. In the nearby village of Kubu Sembelang, eight human cases of H5N1 influenza had emerged in one family, with seven fatalities. The timing of those illnesses was the most significant indication that human-to-human-to-human transmission had occurred, a dreaded sign of mutations that might signal the virus’s capacity to spread between humans and the start of the prophesied human pandemic. In light of these deaths, the Indonesian government was accused of responding too slowly to emerging events (Butler 2006).

The WHO alerted the Switzerland-based Roche Corporation that they might be called upon to send supplies of the antiviral drug Tamiflu. They believed the drug might help create a cordon sanitaire around the population to halt transmission before it really caught fire, although an article in the *Lancet* (2006, 1550) states, ‘The idea that within a week or two of a pandemic’s initiation we could quench it by saturating a ring of at-risk population with oseltamivir [Tamiflu], achieving 90% coverage and high compliance, and at the same time impose movement restrictions and social distancing ... is simply fanciful’. Drug readiness was, nevertheless, a sign of pandemic preparedness; similarly, the public appearance of three of Indonesia’s top ministers far outside the Indonesian capital was an act of security theater. Their visit was designed to convince the people of Karo that the poultry culls in their community were part of an important national strategy to stamp out the bird flu and to signal to the international community that Indonesia was taking the H5N1 outbreak and these recent ominous developments seriously. What the ministers were not able to convey to the local community was any ability to care for sick patients or poultry.

Security measures are not always measures of human or animal health, and these days global health looks to secure the future. Its precursor, international health, was a form of development aid encompassing projects like family planning, vaccination, and nutrient supplementation. If older forms of development aid and public health were about ‘population security’ – described by Andrew Lakoff (2017, 38) as ‘measures to protect the population against regularly occurring internal threats such as illness, industrial accidents, or infirmity’ – this new form of securitized health is more closely related to what he names ‘vital systems security’, or ‘the event whose probability cannot be calculated but whose consequences are potentially catastrophic’. For Indonesia, the probability had already been calculated, and the chance of global pandemic was presumed to be quite high, conceived of as ‘when, not if’. While it was taken for granted that the outbreak in Indonesia could easily be the beginning of a pandemic, the issue for the international community seemed to be how

to keep the H5N1 virus in place in Southeast Asia so that it did not threaten the global North or the international economy.⁵

Development aid is a helping practice but historically was also designed to create a population that might ‘resist Communism’ or ‘modernize’ along W. W. Rostow’s developmental trajectory.⁶ Now, as the aid model recedes in global health, the future of health takes the shape of emergency preparedness, drug stockpiling, public communications, and poultry culling, among other techniques. This notion of ‘health’ does not entail providing care or directly serving a sick public; rather, it is concerned with protecting a state and its critical infrastructure and is a response to modernization risks. It places at its center new and emerging biological threats at the expense of well-known, common, predictable, and prevalent maladies that continue to plague a population. The shift entails new forms of expertise and knowledge making through which diseases, viewed as threats or hazards, are known and managed, and it encompasses a new form of future-oriented imaginary (Collier and Lakoff 2008).

The H5N1 outbreak was not only a threat to humans; it was also a threat to a network of interconnected nonhuman populations – poultry, wild birds, swine, zoo animals, microbes – brought together in an assemblage centered on a rapidly mutating influenza virus. Indeed, the chicken would turn out to be this strain’s most substantial victim at both the Indonesian and global scales.⁷ Within the new security configuration, both the future of viral matter and its ability to surprise as well as the technocratic potential to tame the virus were at stake. Farm biosecurity includes the means to separate humans, animals, and their pathogens, attempting to keep each in its appropriate realm to prevent the spread of viruses and bacteria. The protective clothing worn by the Indonesian ministers was intended to secure these important personages from possible contact with the virus. The suits were an admission of the vitality of the influenza virus, a recognition that H5N1 was as much ‘force as entity’ (Bennett 2010). This indeterminate agency of the virus was as important to the outbreak scenario as was technical expertise.

5 The World Bank estimated that the influenza pandemic would cost the global economy US\$3 trillion (Gale 2008).

6 W. W. Rostow was a Cold Warrior who argued in *The Stages of Economic Growth: A Non-Communist Manifesto* (1960) that there were five universal stages to economic development and that promoting economic development was the way to prevent the appeal of communism in postcolonial nations.

7 The number of poultry deaths from H5N1, both directly from the disease and from culling, is estimated to be in the hundreds of millions.

Viral sovereignty

The possibility of an H5N1 influenza pandemic in the mid-2000s was a health event with a future orientation, what Carlo Caduff (2015) has called the ‘pandemic perhaps’. Indonesia was at the center of this speculative deadly event, the location where the highly pathogenic avian virus was most likely to infect humans and evolve the capacity for sustained human-to-human transmission. Framed as a potential existential threat to human life on Earth and as an actual concrete threat to poultry lives, new responses were demanded of the Indonesian nation. New institutions, like the National Commission on Avian Influenza and Pandemic Preparedness (Komite Nasional Pengendalian Flu Burung dan Kesiapsiagaan Menghadapi Pandemi Influenza), were formed; old institutions, like the Jakarta offices of the WHO, the UN Food and Agriculture Organization (FAO), and the Indonesian Department of Agriculture, were refocused on influenza; research programs, like the collaboration between the US Naval Medical Research Unit II and the Ministry of Health, were shifted in focus, in this case from malaria to influenza; and new practices, like biosecurity measures and communications strategies that attempted to change relations between Indonesians and their livestock, were enacted. Money and expertise were directed away from common problems like dengue fever and toward a speculative outbreak that, to date, has still not affected great numbers of Indonesians.⁸

Indonesia would be brought into H5N1 pandemic preparedness on new terms, yet from within older established humanitarian hierarchies. Indonesia was asked to be responsible not only for protecting its own citizens against the outbreak and providing for their well-being but also for protecting the world from a potential scourge identified and defined by the global health community in its own image. With its emphasis on universal human suffering in a potential influenza outbreak, the rhetoric of medical humanitarianism in the influenza intervention overlooked the specificities of how agendas would be set, who would be protected, and how the benefits of preparedness protocols would be shared. According to Peter Redfield (2012), humanitarianism is part of a contemporary ‘architecture of sentiment and judgment’, and, he writes, ‘a humanitarian sensibility thus both defines the proper mode of political conduct and suggests a limit to it’. While compelled by international agreements, Indonesia’s participation was framed as a humanitarian endeavor responding to moral claims about the unified vulnerability of humanity, yet this same ‘humanity’ was not equally protected from the influenza ‘apocalypse’ by, for example, access to drug therapies in the event of an outbreak. Far from an abstract good, pandemic preparedness plans slid across a

8 One hundred and ninety-nine human cases of H5N1 were recorded in Indonesia between 2003 and 2017. Among these were 167 deaths.

dispersed set of technical and moral worlds that apportioned different costs and different benefits for Indonesians and the international community.

Leading Indonesia's response to the H5N1 outbreak was Indonesia's Minister of Health Dr. Siti Fadilah Supari,⁹ who became known for standing up to the WHO and the global health community over the issue of H5N1. As the apparatus of global health descended upon Jakarta, pulling Indonesian time and resources into the cause of a speculative outbreak, she responded with a remarkable claim: Indonesians don't get the flu, and if they do, they deal with it through *kerokan* (the Southeast Asian practice of dermabrasion therapy known in English as 'coining'). Her desire to transform the understanding of the problem and its solutions was an attempt to wrest control of the avian-influenza intervention away from the international community. She did this by positing a unique Indonesian body, one that was both resistant to influenza and imbued with the historical memory of Indonesia's colonial experience (Fassin 2007). Indonesia, she argued, did not require what she perceived as a neocolonial intervention into her country's infrastructure and an affront to Indonesia's sovereignty. The future of Indonesian health would not be universal, nor would Indonesia forget its past.

Dr. Supari's most momentous act, in what she understood as the defense of her country, was to cease sharing samples of Indonesian strains of H5N1 virus with the WHO. Her refusal was grounded in an ethic of 'viral sovereignty', her neologism for the idea that biological samples from Indonesian patients are a form of local biodiversity and therefore part of Indonesia's national patrimony. Describing her resistance to sample sharing, she wrote: 'In fact capitalism had not only made certain countries exploit the natural resources of the developing countries. They also exploited part of the human body from the powerless country. They took our blood. They took our cell. They took our antibody. And perhaps it would be more dangerous when in the end they would take our brain cell as well, to be re-engineered to create a new generation of slaves' (Supari 2007, 119). In this case, the viral outbreak did not ignite fears of a repeat of the 1918 influenza pandemic, a main imaginative

9 Dr. Supari is a practicing cardiologist and member of the faculty of the University of Indonesia. She was an unlikely candidate for minister of health, with little experience and few connections with the international global health community in 2004. As President Susilo Bambang Yudhono was trying to balance out political influences within his cabinet, Dr. Supari was put forward by Muhammadiyah, Indonesia's second-largest Islamic organization. As minister, she instituted a program of poor people's health insurance (*Askeskin*); initiated a program (*Obat Serba Seribu*) where generic medicines for cough, cold, diarrhea, etc., could be purchased by anyone for ten cents; and starred in a talk show, *A Chat with Ms. Minister (Bincang Bincang Bersama Bu Mentri)*, on TV One to publicize the work of the health ministry.

resource for how the pandemic potential of the H5N1 strain was interpreted internationally.¹⁰ Instead, the securitization response set off a cascade of resentment and suspicion on the part of many in Indonesia who feared the intentions of the international community more than they feared an opaque viral particle with a speculative future.

The modern system of sample sharing originated more than sixty years ago with the perceived need for an annual influenza vaccine. The composition of the annual virus is a future-oriented prediction based upon information about strains of influenza circulating nine months in advance of the flu season in either hemisphere. Influenza strains are constantly mutating and shifting. Because the flu mutates so rapidly, a ‘holy grail’ vaccine, one that covers all influenza types, does not exist. Instead, samples of ‘wild viruses’ are aggregated from ill patients at collecting sites in over one hundred countries around the world. These countries send representative material samples to the WHO’s Collaborating Centers for Reference and Research on Influenza, located in Atlanta, Tokyo, London, Melbourne, and Beijing. Twice a year, based on influenza surveillance and clinical observations, the WHO then recommends which strains to include in a seasonal flu vaccine. They publish these recommendations and share ‘seed strains’ (actual viral material) with the industry to allow pharmaceutical companies to produce an annual flu vaccine that best matches the season’s predicted strains.

The WHO’s surveillance system, called the Global Influenza Surveillance and Response System (GISRS), has been in place since 1952, and more than one hundred countries presently share influenza viruses with the GISRS. In addition to providing an annual flu vaccine recommendation, GISRS has the responsibility to provide influenza risk assessments and track emerging pandemic strains of influenza. No specific material difference distinguishes a potential pandemic strain from any other presently circulating influenza, but the WHO wants to be prepared when one turns deadly on the ground. When new H5N1 strains appear they are supposed to be passed along to the WHO so the organization can track the virus’s emergence and geographic spread. Indonesia initially sent samples of H5N1 off to the WHO, as it had agreed to under international law.

Modern molecular biology is only made possible by transnational biological exchange, what Eugene Thacker (2006) calls the ‘global genome’: the amalgam of genetic material, political, and technological flows across borders in the current practices of biological science. Thacker (2006, 7) defines biological exchange as ‘the circulation and distribution of biological

10 The 1918 pandemic of H1N1 influenza caused the death of 3 to 5 percent of the world’s population (Taubenberger and Morens 2006, 15).

information, be it in a material or immaterial instantiation, that is mediated by one or more value systems'. Sharing influenza samples is likewise a practice of biological circulation organized under the sign of the global and working across varied terrains of technical capacity, purpose, and value. While the international community presented the H5N1 outbreak as an event of global significance that required cooperation, Dr. Supari argued that Indonesia might end up paying for proprietary vaccines made by foreign pharmaceutical companies, made from samples it had given to the international community for free out of humanitarian concern. Moreover, in the case of a global pandemic, these drugs might be in short supply, and Indonesia, although it had provided the key material ingredient for the drug's manufacture, might not have privileged access to them. The compulsory nature of the international sample-sharing mechanism appeared to benefit the global North at the expense of countries, like Indonesia, Egypt, or Mexico, with actual highly pathogenic influenza cases.

Dr. Supari pressed the WHO to accept the idea that the nation, not the world community as represented by the WHO, held the rights to viral samples and should control their future. She argued that the 1992 UN Convention on Biological Diversity, which protects a nation's rights to the genetic diversity found within its borders, extends even to the microbial diversity found in Indonesia and obviates Indonesia's obligations under the international sample-sharing mechanism of the WHO. Thus, Indonesia's minister of health demanded the international community recognize that the viral material underlying the international influenza regime was the property of Indonesia, required the consent of the Indonesian government to be shared, and needed a formal Material Transfer Agreement to move between countries (Sedyaningsih 2008). Why should individual pharmaceutical companies profit from the humanitarianism of the sample-sharing countries?

To promote Supari's concept of viral sovereignty, Indonesia hosted a high-level meeting of national health ministers and WHO officials in 2007, where representatives discussed how samples could be shared equitably and benefits distributed fairly. They adopted the 'Jakarta Declaration', a document that emphasized sharing benefits (including data, information, and affordable vaccines) resulting from the circulation of biological specimens (KBRI Ottawa 2007). Under Supari, Indonesia was again a leader of the postcolonial world, reviving the glory of its first president, Sukarno, who along with India's Nehru, Egypt's Nasser, Ghana's Nkrumah, and Yugoslavia's Tito led the nonaligned world to resist the imperialism of both the East and West Cold War blocs. Supari (2007, 35) wrote, 'As a generation born in the beginning of the 1950s, I still remember that Indonesia once had Soekarno, one of the founders of the Republic, a great leader who had become the inspiration for many nations under colonialism both in Asia and Africa to fight for their own independence'.

Dr. Supari is the one who first publicly outlined the argument about the inequities in the international sample-sharing system and brought them to the attention of the global health community (KBRI Ottawa 2007). Her intervention links the potential exploitation of Indonesia to the injustices other marginalized populations have experienced as subjects of scientific research. The well-known story of the HeLa cell line (Skloot 2010) concerns an African American woman, Henrietta Lacks, who had cervical cancer; her tumor cells were the first cells ever grown successfully in a cultured medium. While HeLa cells made possible the experimental processes that resulted in a successful polio vaccine and other critical medical breakthroughs, Lacks's cells were taken, cultured, and sold without her permission. Today, while these cells continue to be sold throughout the world for medical research, Lacks's descendants are unable to afford their own health care. In an ironic twist, what was originally done without Lacks's knowledge has been reframed, retrospectively, by drug manufacturers and researchers as a humanitarian gesture on the part of the Lacks family.

Linda Tuhiwai Smith (2012) has written an overarching account of research from the perspective of the researched. Noting that Christopher Columbus and James Cook were both circumnavigating the world on research missions, she observes that research has always been linked to imperialism. Becoming the object of research can be painful. Lacks's daughter Deborah felt acute pain on learning that her mother's cells have been blown up in nuclear explosions, shot into space, and stored at subzero temperatures (see Radin [2017] on the 'ghosts who haunt the archives of human biology'). Research has often benefited scientists, their institutions, and their governments at the expense of those who have contributed narratives, effort, and material samples as humanitarian gestures, if not by force or deception. From the perspective of the researched, research can circumscribe one in debilitating theories (Deloria 1969), be useless to the donor or research subject (as in the Lacks case), be done without informed consent (see Harriet Washington [2008] on the history of medical experimentation on African Americans), and overpower the truths peoples want to tell about themselves and their own histories (see Tallbear [2013] on Kennewick Man).

Indonesia's actions brought to light the need for an expanded sense of materiality in response to the virus: curing ill patients would require not only cladistics and sequencing but also the production and distribution of drugs (some of which existed only as concepts) and the financial means to acquire them. Supari speculated that even though the seed stock for a future vaccine might come from Indonesia, the vaccine supply would be produced, stored, and distributed by developed countries, allowing them control over which countries could access the drug supply. This was not idle speculation but was based upon her observation of what had happened with Tamiflu, the antiviral drug recommended to lessen the severity of influenza in affected patients and called for in the Karo outbreak. Upon discovering that Western countries had stockpiled available supplies of Tamiflu, Dr. Supari (2006, 5) said,

‘The incident of sweeping out of the Tamiflu stock by developed countries that had no cases of the disease really made a deep wound in my heart’. While the GISRS could produce cladistics that mapped viral evolution and would feed into pandemic-preparedness plans, these plans were what Tobias Rees (2014) describes as ‘the dreamy side of modernity’; they were ultimately phantasmagoria that would not cure sick Indonesians in the case of an outbreak.

Security, paranoia, resentment, and mistrust

Rather than recognize the historically situated truth of Dr. Supari’s objection, the predominant response of the international community to the idea of viral sovereignty was cynicism and mistrust. In the *Washington Post*, Richard Holbrook and Laurie Garrett (2008, B7-R) wrote in the derisive style often heard in public, and more often in private, within the global health community:

Here’s a concept you’ve probably never heard of: “viral sovereignty.” This extremely dangerous idea comes to us courtesy of Indonesia’s minister of health, Siti Fadilah Supari, who asserts that deadly viruses are the sovereign property of individual nations—even though they cross borders and could pose a pandemic threat to all the peoples of the world. So far “viral sovereignty” has been noted almost exclusively by health experts. Political leaders around the world should take note—and take very strong action.

The Holbrooke/Garrett excerpt expresses the paranoia of an international global health community that feared its ability to prepare for an influenza pandemic was being put at risk by its inability to impose its expertise on Indonesia. This paranoia was mirrored on the Indonesian side among those who were suspicious of the international community’s motives and concerned that there might be more at stake here than vaccine production or even human health. Despite her moral victory in identifying the protocols of the WHO as an elite project that overlooked Indonesian interests, Dr. Supari turned her work at the Ministry of Health into a platform for paranoia and resentment. Drawing on Nietzsche’s elaboration of the concept, Wendy Brown (1995, 68) describes *ressentiment* as having three characteristics: ‘It produces an affect (rage, righteousness) that overcomes the hurt, it produces a culprit responsible for the hurt, and it produces a site of revenge to displace the hurt (a place to inflict hurt as the sufferer has been hurt). Together these ameliorate and externalize ... what is otherwise unendurable’. In a climate where some Indonesians were claiming that the bird flu intervention was a way for the Freemasons to infiltrate Indonesia (Haroki 2009), that H5N1 was deliberately spread by the United States in order to dominate the poultry market (FMKP 2007), or that the flu was bioengineered by the West to control Indonesia (Baskara

2008), Dr. Supari used her ministerial power to extend her argument into a vision of global health as an international conspiracy.

Trust and mistrust are fundamental to the experience of potential catastrophic risk. Giddens (1990, 34) explains how trust and expert systems are intertwined and understood in relation to risk: 'Trust may be defined as confidence in the reliability of a person or system, regarding a given set of outcomes or events, where that confidence expresses a faith in the probity or love of another, or in the correctness of abstract principles (technical knowledge)'. In the H5N1 intervention, probity, love, and technical knowledge were all at stake. While the international community fretted over Indonesia's technical capacities, residents of Kabanjahe were unsure of the minister's probity, and there was no love lost between Dr. Supari and the international community. Further, Giddens (1990, 90) writes, 'respect for technical knowledge usually exists in conjunction with a pragmatic attitude towards abstract systems, based upon attitudes of skepticism or reserve'. What is unusual here is that, unlike the villagers of Kabanjahe, who were at a distance from expert knowledge, Dr. Supari's skepticism and reserve came from within the expert system that she was the very face of, both in Indonesia and internationally. Further, her probity came into question by the end of her time as minister, when she was accused by the Indonesian Corruption and Eradication Commission of taking kickbacks in the procurement of medical equipment to fight the influenza outbreak. By 2014, Dr. Supari was under indictment, and in 2017 she was sentenced to a four-year prison term and a fine of 200 million rupiah for corrupt practices (*Jakarta Post* 2017).

In a world being organized around viral matter, the status of the material virus also generated mistrust and insecurity, and Dr. Supari put forth the idea that it may have been biologically engineered. Los Alamos National Laboratory had maintained a pathogen database for influenza and was keeping Indonesian samples. Dr. Supari claimed that since Los Alamos was the site of the Manhattan Project, there must be a nefarious reason for their interest in Indonesian influenzas: 'It is not impossible that there will be a group of people in the developed countries that are insane enough to reengineer the viruses to create outbreaks in the third world. Don't you realize that if you have the expertise and the sophisticated facility to develop [a] vaccine, you also possess the genetic engineering capability to create new and more virulent viruses?' (Supari 2006, 124). And she had other questions. Why had Indonesia been asked to destroy its reserve of smallpox vaccine after the global eradication of smallpox? Was it so that the developed countries could use smallpox against the rest of the world? Was her commercial flight from Tehran to Geneva deliberately delayed so that she could not make a speech on viral sovereignty at the Palace of Nations? Why did the press pay more attention to 'Dede the Tree Man', an Indonesian victim of human papilloma virus who grew giant tree bark-like scales on his hands and feet, than to her? Why was she made

to wait ten minutes when she showed up unannounced at the US Naval Medical Research Unit II in Jakarta? Was the United States using H5N1 samples to make biological weapons?

Perceived slights and paranoid speculations resonated with Indonesian and international commentators with different stakes in the future of health. This was not the paranoid style of the marginalized or uneducated. This was the ‘paranoia within reason’ that George Marcus (1999) describes inhabiting elite political and scientific institutions. He writes of a post-Cold War paranoia that responds to the rapidity of social change, and he links a new form of paranoid speculation and skepticism to the desire to solve social problems through the engine of reason and progress, in the context where this same modernity has been undermined by new forms of risk and failure. Commentators in the global North believed Supari was using the sample-sharing issue to deflect attention from failures in the Ministry of Health or to appeal to Islamists in the country (Elbe 2010). Cold War assumptions about power and alignment no longer held true: Holbrooke and Garrett were upset by the capacity of a postcolonial nation to interfere with their sense of apocalyptic urgency and plans for global security. Holbrooke and Garrett (2008, BR-7) demanded political leaders ‘take very strong action’.

Nils Bubandt (2008) argues that conspiracy is a pervasive form of political explanation in Indonesia; the figure of the shadow-puppet master (*dalang*) who stands behind political events is an enduring trope of Indonesian political analysis. For Indonesians, the master puppeteer in the international realm is the United States. While the conspiratorial idea may indeed be ‘sensible’, the point for Bubandt (2008, 810) is to understand ‘how political action takes place within such a discourse of political paranoia’. Kathleen Stewart (1999), on the other hand, argues that conspiracy can be viewed as a re-enactment of trauma; if so, one could argue that conspiracy has been a form of traumatic postcolonial political commentary in Indonesia for a long time. Rather than positing Dr. Supari as a rational actor who ‘deploys’ conspiracy instrumentally, we could argue that it is entirely within reason for her to believe that the United States does not have Indonesian interests at heart, that the international community has at least the capacity to damage Indonesia by mobilizing science and technology, and that Northern projects of public health are aligned with Northern and not Indonesian security interests. In a pandemic-preparedness project supposed to address speculative danger, the virus cannot account for all forms of risk.

Failures of viral sovereignty

The virus may not account for all risk, but it can account for something. At this point in the story, having acknowledged the value of Dr. Supari’s intervention, I take a different tack to ask more about the viral object. What about Dr. Supari’s multinaturalist (Vivieros de Castro

2015) claim that Indonesians don't get the flu? Studying influenza, it is impossible not to bring the force and trajectory of influenza's material becoming into the equation. While Dr. Supari's concept of viral sovereignty allowed for powerful moral claims upon the global health community, her response to the viral outbreak failed to account for its ontology across Indonesian worlds. Dr. Supari doesn't consider how Indonesian H5N1 was evolving through the transnational transportation of poultry, its roots in commercial farming in Thailand and Guandong province in China (which could make it a 'Thai' or a 'Chinese' virus), or the way international scientific networks were indispensable for sensing the presence of the virus. Indeed, the virus did not 'exist' without the prosthetic capacities of an expanded international network; the vast majority of people die in Indonesia without a medical diagnosis, leaving much epidemiological data on the causes of mortality and morbidity invisible. While Dr. Supari presented herself as advancing Indonesian science, she often did not seem to value microbiology or medicine as ways to make sense of the world, or to acknowledge the collaborations that make contemporary research or clinical practice possible in Indonesia as in other places. As the central person responsible for the health of the Indonesian public and as the person in charge of advancing Indonesia's medical research capacity, Dr. Supari would have done well to ask deeper questions about the influenza plaguing her country, questions the discursive immateriality of her nationalism alone could never answer.



Figure 1. Chicks from the Thai-owned Charoen Pokphand arrive at the Jakarta airport. Photo by C. Lowe.

Indonesians do, for example, get the flu. Not only were they the most numerically significant victims of H5N1 jumps from poultry into humans across the globe at that time; Indonesians

also get the ordinary annual flu. Yet in relation to the seasonal flu vaccine, Dr. Supari (2007, 12) claimed that she feels fortunate that Indonesians don't need it: 'Each time we are suffering from the common influenza, it is easy to control it. We need only symptomatic medicine (such as Bodrex, Panadol, and so on) even the method we call *kerokan*. But among Europeans, the same influenza can be lethal, especially in complication with pneumonia. That is why their need of seasonal flu vaccine is uncompromised'.

Coming in the midst of an influenza crisis, Dr. Supari's comment shows a profound lack of technical understanding of the conditions of influenza lethality; the influenza lethality she claims Europeans alone are vulnerable to is, in truth, applicable to anyone. Indeed, mortality estimates of the infamous 1918 influenza pandemic for the island of Java are 4.25 to 4.37 million (Chandra 2013) and greater for the entire Indonesian archipelago. Interest in pandemic flu in the 2000s caused a significant transformation in understanding influenza in the tropics. In research at the Federal University of Ceará in Brazil, Dr. Fernanda Moura (2010) observes that the avian-influenza outbreak and the 2009 swine flu sparked a surge of studies on the epidemiology, genetic diversity, and antiviral resistance of influenza in the tropics. Her meta-analysis, focused on the global South, points to an influenza prevalence comparable to or higher than that of temperate countries. Further, resistance to antivirals is common across tropical settings despite their rare use. Moura argues that there is much more work to do on the seasonality of influenza in tropical countries and that understanding seasonality is important to influenza prevention and control.

While acknowledging the juridico-political importance of the claim of viral sovereignty, it is also important to acknowledge those scientists from the global South like Dr. Moura, or the many Indonesian scientists who are no less patriotic than Dr. Supari, who nevertheless wish to use empirical methods to understand influenza. It was two Indonesian scientists – Indonesia's former director of animal health, Dr. Tri Satya Putri Naipospos (who first spoke to the press and was fired from the Ministry of Agriculture for revealing there was H5N1 influenza in Indonesia) and Professor of Microbiology Chairul Nidom (who first detected the virus in Indonesian chickens and made his findings public) – who brought the outbreak into the open and demanded the Indonesian government respond. One might also appreciate the many Indonesians who found Dr. Supari inadequate in her job and irresponsible in her pronouncements. In response to Dr. Supari's statement that Indonesians don't get the flu and Western governments could have genetically engineered and spread the 2009 swine flu to boost pharmaceutical profits, one H. Mustapha (2009) from Bekasi answered in a Jakarta newspaper:

This Minister should RESIGN immediately. Her many comments on this issue are disgusting. In one interview, according to NEWSWEEK she claims Indonesians cannot be infected with Flu. What an amateur she is. Are we Indonesians SUPERHUMAN, Please get rid of this INCOMPETENT person. Where did she get her Degrees, I hope not thru the 'express' system. ... It is obvious the current Minister does little to educate us, so we should search for solutions on our own, and please let us share any info that is important. Please Mr. President, make sure the next Minister of Health is COMPETENT. Thank you Sir.

Wendy Brown (1995) argues that contemporary politicized identity discourse is limited in its political effects when it proposes a 'unified "I" disenfranchised by an exclusive "we"'. When I read aloud H. Mustapha's comment in the midst of a talk at a History of Medicine in Southeast Asia conference in Laos in 2018, I was startled when the audience, led by the retired Laotian minister of health, who had led his country's response to the influenza outbreak, and several of the Indonesian conference participants, interrupted with applause. In this case, their fear was that Southeast Asians would not be counted among the 'competent' global technocratic elite who were fighting the outbreak of H5N1. 'Sovereignty' could not account for many of the biological, medical, or technical ambitions of Indonesians, nor could it speak for the virus in any robust way.

Viral matters

Part of the competence that H. Mustapha was calling for is what Donna Haraway (2016) has termed 'staying with the trouble': avoiding the backward-looking nature of postcolonial annihilation or the future orientation of technoscientific apocalypse to instead notice how people, their livestock, and microbes live interconnected lives and shape one another. There is an element of viral matter that allows it to exceed its capture within human imagination, an agency of things that is interrelated with but not dependent upon human projects or identities. As the central actor in the outbreak, H5N1 would resist and exceed both the practices of securitization and the form of knowing that places injury and resentment at the center of things. This does not indicate that its mutations were independent of relationality with human practices, though.

Most sciences of pandemic preparedness emphasize the study of proximate causes of virulence (those internal to the virus), like typing emergent strains and following their spread, but in the case of H5N1 little attention was being paid to what the evolutionary biologist Paul Ewald (1991) considers the 'ultimate' causes of its deadliness. Ewald argues that if we want to understand what makes a microbe evolve virulence, we need to look not just inside the virus but outside, to what he calls its 'cultural' environment. Ewald speculates, for

example, that in 1918, the influenza strain only became so deadly in the context of warfare in Europe. If a pathogen kills off its host rapidly (in other words, is virulent), then usually that host cannot move to infect others, and virulent genotypes are thereby selected against. But if there is a large population of susceptible hosts nearby, as in the trench warfare of World War I, then there is no barrier to virulent genotype survival. Viral evolution under conditions of trench warfare can further explain why young healthy people, rather than children and the elderly, were most vulnerable to the 1918 pandemic influenza; the virus had evolved within this demographic.

The phylogeographer Robert Wallace (2009, 2016), who first identified the site of H5N1's emergence as Guandong, China, was working on the genetic sequences of H5N1 influenza when he realized that sequences alone could not tell him why the strain had emerged there. He needed an analysis of the economic geography of the area (what Ewald had called the 'culture' or 'ultimate cause') to answer this question. And for him the answer lay in the introduction to South China of the practice of confined animal feeding. In a population of wild birds, influenza will cause mild disease, so the sick bird can still move around and transmit the virus to another host: as in the human case just described, virulence is selected against. Things are different in the industrial henhouse, however. If the henhouse provides an unlimited supply of new and susceptible hosts, then there is no evolutionary cost to virulence. The conditions of industrial poultry production place thousands of genetically monocultured, stressed, and immunocompromised birds on top of one another. Genetic mutations for high pathogenesis thrive in this socioecological environment.



Figure 2. Industrial poultry processing in Yogyakarta, Indonesia. Photo by C. Lowe.

Wallace (2009) also answers the question of how the disease originated in the Guandong region. The industrial sector in South China rose in the space of the densely farmed domestic duck cultivation that had been prominent and unproblematic in the region since the Qing dynasty. South China has the greatest mix of influenza serotypes, and influenza circulates year-round there. Close proximity to human populations and live bird markets add to the mix. However, none of this could have produced the deadly H5N1 virus without the 'livestock revolution'. Wallace (2009, 916–51) writes, 'in reorganizing its stockbreeding industries under the American model of vertically integrated farming, Chinese farming helped accelerate a phase change in influenza ecology selecting for strains of greater virulence, wider host range, and greater diversity'. Wallace's review of the literature further reveals that there were no highly pathogenic strains circulating in wild birds, the natural reservoir for avian influenzas, before those associated with industrial farming.

By emphasizing a 'molecular narrative' (Braun 2007) rather than the industrial ecological setting of viral evolution, much about the H5N1 outbreak was never made visible in the international pandemic intervention, and much was left unnoticed by both international and Indonesian experts responsible for responding to H5N1. The US Agency for International Development, for example, worked on influenza in Indonesia for five years before it began

to engage the industrial sector seriously. While Indonesia's minister of health may have dismissed influenza as a powerful entity in the world, it was also as though the international community had declared that industrial chickens don't get the flu. The prophetic powers of preparedness planners were as divorced from the scientific reality of the human relationship to this evolutionary story as Dr. Supari was in her statement that Indonesians are not vulnerable to influenza.

Industrial agriculture has both expanded the meat supply for human consumption and damaged our planet by injecting effluent, chemicals, and pathogens into the biosphere we inhabit. In thinking about 'the arts of living on a damaged planet', Swanson and colleagues (2017, 7) write, 'The seductive simplifications of industrial production threaten to render us blind to monstrosity in all its forms by covering over both lively and destructive connections. ... Living in a time of planetary catastrophe thus begins with a practice at once humble and difficult: noticing the worlds around us'. H5N1 influenza may be a disease of 'our own hatching' (Greger 2006), yet it is more than a conspiracy. If we think of objects as having world-making intensity rather than simply reflecting constructed social perspectives or positionality, then we must ask what kinds of future worlds are being made by the influenza virus in concert with which multispecies, political, and economic relationships; we cannot ask only about the identity or positionality of the human actors involved. This is why it matters that some Indonesians, like Dr. Naipospos and Dr. Nidom, were paying close attention to how the H5N1 virus was creeping across Indonesian farms and emerging into human populations. Both stuck closely to the virus to speculate on what the dangers may or may not have been to Indonesia or the world. Animals, plants, and microbes have agency in the future of health just as humans do.

Return to Kebanjahe

When the Indonesian ministers of health, welfare, and agriculture descended upon Kabanjahe in their Tyvek suits and goggles, they must have looked like astronauts landing on the moon. The people of Kabanjahe saw through the ministers' theatrical security performance, though, realizing they weren't being protected by their act. They also believed that there was no evidence of H5N1 in their village. A crowd surrounded the ministers, berated them, and yelled for them to take off their masks and face the people directly, demanding they not cull their poultry and admit there was no bird flu in Kabanjahe. The villagers were concerned with preserving their chickens but also with the reputation the village had gained for being infected when they believed it wasn't. Sensing that mortal danger came more directly from the mob than from the virus, the ministers shed their protective gear, cancelled their inspection of the village, and retreated to their vehicles (Asmarani 2006).

In a context where major US and international multilateral political and administrative institutions were concerned with anthrax attacks, biological weapons, smallpox outbreaks, or SARS, the influenza virus was taken up as a threat to global security rather than as a matter of human or animal care. As security was materially and symbolically enacted in the outbreak, events in Karo crystallized questions of who was being secured from what, and how. The people of Kabanjahe, caring about the virus by looking for its effects and finding none, refused to be made secure by ministers who they believed had only their own personal safety and political careers in mind. Similarly, while the global health community presented the H5N1 outbreak as an apocalyptic event of global importance that required Indonesia's cooperation, Dr. Supari pressed the WHO to accept the idea that such cooperation in turn must benefit Indonesia. While some Indonesians feared the power of the international community to render it helpless in the event of an outbreak, other Indonesians were afraid they would lose their capacity to participate in modern molecular biology, and still others feared poultry culls would devastate their livelihoods.

Many invisible and barely perceptible objects and processes lie in wait along a trajectory set to shape our future. From the hidden toxins that will give us cancer someday to the imperceptible greenhouse gases driving climate change, the future is uncertain and insecure. As Haraway (2016, 1) writes, 'in urgent times, many of us are tempted to address trouble in terms of making an imagined future safe, of stopping something from happening that looms in the future, of clearing away the present and the past in order to make futures for coming generations'. Security is never generic, however; what is contained within a past or present that cannot be easily cleared away allows us to make sense of the futures we individually and collectively desire. Both the people of Kabanjahe and the Indonesian minister of health had fears and concerns that did not make sense when filtered through the international community's anxious approach to a speculative global pandemic, and, likewise, the global health community's fear of a global influenza pandemic did not translate in a country where dengue, road injury, and diabetes were the top national health concerns. From protecting chickens to protecting the global economy, from protecting the reputation of a village to protecting the image of the nation, stakes in the future of health were multiple and extended beyond the speculative pandemic to reflect uniquely positioned anxieties.

In the global health intervention to prevent an H5N1 influenza pandemic, technical expertise emphasized cladistics, scenario reenactments, hand washing, and stamping out outbreaks; it did not suggest intervening in the profit centers of industrial agribusiness that were the context, or 'culture', of viral pathogenesis. As the virus evolved the capacity to transmit between genetically related humans in Karo Regency, the virus was an active element with the capacity to do something, though it never became clear precisely what. Within the borders of confined animal feeding operations, the virus was also active such that new highly pathogenic strains were emerging at a rapid pace in tandem with industrial animal

production and the global traffic in animals and their parts. Dr. Supari's apocalyptic view of a world in which the 'West' deliberately bioengineers viruses to wipe out Indonesia and its economy subsumed that agentive virus and its capacity to inflict harm under the 'wounded attachments' of her nation. And Holbrooke and Garrett's sense that viral sovereignty put global health at risk inflated the capacities of sample sharing to intervene in the evolutionary life course of the virus at the expense of empathy for Indonesian arguments about equity. Yet vital matter is never simply recursive to human identity or interpretation. The world has remained secure from an H5N1 human pandemic thus far not because we were 'prepared' but because the virus did not make the evolutionary jump required for sustained human transmission. Similarly, as the global health community rendered H5N1 manifest through its lens of security, the paranoia and mistrust associated with securitizing health inhibited care and attention to the emergence of viral pathogenesis that could have brought the virus into focus in less apocalyptic yet still deeply serious ways. Neither the monocausal postcolonial critique that reduces the material world to manifestations of resentment nor the molecular worldview that would ask us to respond to objects only as they appear under a microscope without a network of interconnected human practices is sufficient for making sense of our world or responding to it. In the play of security, paranoia, resentment, and distrust, as 'monarchs of being' we lose sight of the objects, entities, and others with whom we are among, entangled, and implicated.

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