Imaginig Health Disasters

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Reviewed: Patrick Zylberman, *Tempêtes microbiennes. Essai sur la politique de sécurité sanitaire dans le monde transatlantique*. Paris, Gallimard, NRF Essais, 2013, 643 p., 26,90 €.

Patrick Zylberman examines how the concept of health security has developed over the last thirty years, focusing nowadays on global pandemics and the threat of bioterrorism. Such threats, which transcend national borders, require new surveillance systems to be put in place and call into question the very nature of state sovereignty.

In 1996, Patrick Zylberman and Lion Murard, published a reference book on the history of public hygiene in France. Almost twenty years later, he has published an equally important book looking at the public health crises of the last thirty years. This timespan between the two publications allows us to measure the changes that have occurred over a century, with 'public health' turning into 'global health' - a sign not only that European health policies have spread to other regions of the world, but more deeply, that the policies themselves have increased in scale. What was before a question of recording the number of cases within a certain territory in order to map the risk faced by a population now involves anticipating potential future health emergencies by tracking microbes across the entire planet. Zylberman's historical study follows how the ideas and techniques which led to this transformation have developed over time.

His study questions the concept of public health security, one which has featured on the French political scene since the creation of health security agencies at the end of the 1990s. The aim at that time was to protect the public from various health risks associated with medicines, food products and the environment[1]. However, the ongoing implementation of this specifically French model for intervention, based on the precautionary principle, should not blind us to how strange the union between health and security really is, or to the very many ways in which it might manifest itself. The use of terms such as "health security", "human security" or "biosecurity" implies that nation states no longer hold exclusive authority over the implementation of security measures in the face of these new threats[2]. And yet, far from weakening the state, this new definition of security allows it to intervene wherever any biological threat might exist. The history of health security is thus a global one, based heavily on this new understanding of state authority.

The new definition of health security can be best summed up by the principle of *preparedness*, which involves health institutions preparing populations for biological disasters in order to limit the adverse effects of them. This principle differs from the prevention policies implemented in the 19th century, which used knowledge of previous diseases to judge the probability of future health emergencies. Preparedness focuses instead on high

1 D. Tabuteau, *La sécurité sanitaire*, Paris, Berger-Levrault, 2002.
2 S. Collier and A. Lakoff (eds.), *Biosecurity Interventions. Global Health and Security in Question,* New York, SSRC-University of Columbia Press, 2008; F. Gros, *Le Principe sécurité*, Paris, Gallimard, 2012.

impact/low probability events and develops risk scenarios to an extreme beyond the measurement of probability and into the realm of imagined futures[3]. In the new world of global health, the future is more scripted than calculated, more anticipated than predicted. This does not mean that the original methods of prevention have disappeared, but rather that they have been reorganised within the framework of this new security principle.

Zylberman thus questions the uses of fiction in modern public health: 'Health security is today both the object of and the pretext for a vertiginous descent into fiction. Exaggerated figures, groundless analogies and bioterrorism threat narratives are all noted examples for this. (...) Where do all these worst-case scenarios come from? And what are their implications when applied to our own defence systems against microbial threats?' (p. 24). When examining the health policies and preparedness plans in place, it is therefore paramount to understand how our emotions might colour the way we imagine potential future health disasters.

The emergence of preparedness in the United States

It all began at the end of the Cold War as part of the American authorities' response to what they perceived as the threat of biological terrorism. Zylberman's title 'Tempêtes microbiennes' (microbial storm) is a reference to the 'Desert Storm' US military campaign in Iraq. Whilst the prevailing Cold War scenario was based on the doctrine of mutual destruction of both sides through the use of nuclear weapons, once the Soviet enemy had disappeared and the results of biological research carried out in U.S. laboratories began to surface, the United States turned their attention to other less conventional threats. Biological weapons are the poor man's weapons. Inexpensive to produce and easy to spread by air or public transport, they can reach human and animal populations both swiftly and invisibly. Hence the American government's massive preventative investment into research on the potential military use of biological agents such as anthrax and smallpox, referred to as 'dual use' pathogens. The low prevalence of these pathogens in the population (smallpox was eradicated in 1980 after a global vaccination campaign) is precisely why their deliberate use as part of an attack could have such disastrous consequences. Although the military use of biological agents by states was banned during the 1972 Biological Weapons Convention, their use by non-state actors, remains a possibility, albeit a technically difficult one.

Fear over bioterrorism also stemmed from a growing awareness of the link between the emergence of new infectious diseases in the natural world, environmental change (such as the industrialisation of animal farming and deforestation), economic transformations (hence the resurgence of tuberculosis or cholera in developing countries) and growing bacterial resistance to antibiotics. The paradigm for emerging infectious diseases was developed in the 1970s by biologists (including Joshua Lederberg, Samuel Morse, Frank Fenner) and historians (namely Mirko Grmek, Fernand Braudel, William McNeill) who analysed the coevolution of men and microbes. In 1995 the Centers for Disease Control (CDC) in Atlanta founded the *Emerging Infectious Diseases* journal, which became the showcase for the movement, in the wake of the 1972 Convention and the publication of several groundbreaking studies on the subject.

It was fiction which forged the ties between the military world and that of academia. In 1998, Bill Clinton requested that his deputy Secretary of Defense read the well-researched

3 A. Lakoff, 'Preparing for the Next Emergency', *Public Culture,* 19, 2006, Fr. translation «Jusqu'où sommes-nous prêts?», *Esprit*, April 2008, p. 104-111, and "The Generic Biothreat, or How We Became Unprepared", *Cultural Anthropology*, Vol. 23, 3, 2008, p. 399–428.

novel *The Cobra Event*, which describes a terror attack in which a genetically modified virus with horrendous symptoms is unleashed upon New York. The author, Richard Preston, was subsequently invited, alongside experts in bioterrorism, to a conference held in 1997 by the Infectious Diseases Society of America. Zylberman claims here that the new global focus on biothreats was prompted the Clinton administration in the aftermath of the sarin gas attack carried out by the Aum sect on the Tokyo subway in 1995, well before 9/11 and the anthrax letter scare.

A crucial question to consider, therefore, is how the fiction which comes straight from the pages of a novel relates to the fiction used by governments to inform and guide their own policies. Zylberman uses the terms 'fertilisation' and 'contamination' metaphorically to refer to the complex historical ties between the two, something which future research could examine in far greater detail (p. 90-91). Biothreat scenarios emerged, modeled on Herman Kahn's doomsday scenarios and developed as part of his theories on nuclear deterrence. It became possible not only to conceive of a threat but to simulate its effects as well, something which would have been unthinkable during the Cold War, but that is now championed by health security experts. *TopOff, Dark Winter* and *Atlantic Storm* are all examples of simulated outbreaks of the plague, anthrax and smallpox, meant to study the ability of the health care system to share information effectively, manage stocks of vaccines and antiviral medication and to deal with infected patients. 'Fiction is used here as a learning tool. By acting out a script, policy-makers immerse into an imaginary universe and are thus able to adapt their response.' (p. 146). The most interesting chapters of the book touch upon the way in which fiction uses anticipation techniques to merge with real life. The epidemic scenarios imagined are not representative of reality because they are likely to happen (probability) but because of the order of events which they depict (causality); reality is organised into a sequence of actions and threats are then overcome using role play.

Surveillance and warning systems in Europe

While preparedness consists first and foremost in disaster simulation exercises, it then produces entire surveillance and warning systems designed to better manage biothreat situations. In the second half of the book, Zylberman explains how Europe was gradually drawn into these biothreat preparations, despite strong initial reticence on its part. Concern that terrorists might use anthrax or smallpox as bioagents had not yet spread to Europe, which was at that time more preoccupied with food safety, after the outbreak of the mad cow disease. Whilst the U.S. Department of Homeland Security was considering links between terrorism, epidemics and natural disasters, the Directorate-General for Health and Consumers (DG Sanco) in Europe consisted almost entirely of food safety experts. Rather than actively predicting future scenarios, their surveillance activities involved early detection systems designed to alert consumers and withdraw possibly contaminated food products from the market. It was the precautionary principle, rather than preparedness, which guided their work.

Having said that, DG Sanco did carry out simulation exercises in 2002 and in 2005, and the creation of the European Centre for Disease Prevention and Control in 2004 was a particular turning point. After the Madrid terrorist attack, the European Commission intensified its anti-terrorism efforts and widened its scope to include biological weapons. In France, the National Institute for Public Health Surveillance (l'Institut Sanitaire de Veille Sanitaire) was reorganised in the wake of the country's devastating 2003 heatwave. It started keeping digital records of death certificates gathered daily from 147 local authorities in the country. A new model for surveillance, known as "syndromic surveillance", was introduced, which no longer simply collected raw data, but analysed and interpreted it using health-related

information regarding the use of medicines, medical consultations and even keywords from Google searches.

Crucial to the transatlantic history of health security is the flu pandemic, which caused widespread panic in the United States due in no small part to lingering memories of the 1918 Spanish flu, following their controversial involvement in the First World War. In contrast, Europe's response to the outbreak was coloured more by events surrounding the 1997 bird flu outbreak in Hong Kong. The flu pandemic merged health security with food security, preparedness with precaution. Whilst health authorities compare the emergence of a new pandemic virus to terrorist acts – as the virus' natural mutations may look like manipulations carried out by an ill-intentioned scientist – consumers may also link it back to fears relating to industrial farming. Indeed, the origins of the virus, whether from wild or from domestic animals, remained controversial. Zylberman, who studied the story of the 1918 pandemic closely, does not go into further detail about responses to the outbreak, but his comments are nevertheless revealing[4].

However, the overarching idea presented in the second part of Zylberman's book is the following: Europe's implementation of health security policies was based largely on the principle of civil protection, i.e. it focused more on the participatory role of the general population in helping to manage emergency situations than on the possible threat of bioterrorism. While this approach may be viewed as an obstacle to effective emergency response, it can also be considered advantageous in terms of the legitimacy of public action. By affirming that 'each individual contributes to civil security through their actions', the law of 13 August 2004 bases alert and preparedness systems on neighbourhood networks, rather than focusing solely on technical systems or the availability of medical supplies. However, the European approach also has its limits. Although the dominant food security paradigm encourages the public to engage in more responsible modes of consumption, it fails to prepare them adequately against new diseases such as the H1N1 virus, which broke out in 2009. The European public's widespread distrust of their governments' hurried bulk-buying of vaccines to protect them from this new disease could be interpreted as a rejection of the precautionary principle in favour of preparedness, the former seeming initially to be a variation of the latter.

Quarantine in Asia: the return of oriental despotism?

The third section of the text opens with an analysis of the SARS outbreak (Severe Acute Respiratory Syndrome) which spread across much of Asia and Canada in 2003. To many observers, the disease seemed to confirm the disaster scenarios previously simulated, as the new virus emerged in the south of China and went on to infect around 8000 people, with almost 800 deaths confirmed. It was even referred to by some as the 'Asian 9/11'. Zylberman suggests an interpretation of the event differing from widely held opinion. With China, in particular, refusing for quite some time to recognise that the disease was new and to declare its cases to the international community, the SARS outbreak was held up by many global health actors associated with the World Health Organization[5] as an example of successful coordination between international experts working to overcome state obstruction. Zylberman sees it however as public health's return to its more archaic methods of quarantine and isolation. According to Zylberman, the isolation of supposedly infected individuals, and in certain cases, the refusal to treat them for a new illness where little is known of its

4 I would suggest here, if I may, my own work: *Un monde grippé*, Paris, Flammarion, 2010.
5 See in particular D. Fidler, *SARS, Governance and the Globalization of Disease*, Palgrave MacMillan, Basingstoke, 2004.

transmission epitomises the dark side of security. It indicates a desire to purify the social space while pointing to the state's inability to manage the threat.

Zylberman both references and challenges Erwin Ackerknecht's hypothesis that there is a correlation between a state's ideology and its tendency to resort to quarantine measures[7] , pointing out that Beijing isolated fewer individuals than Taipei, and France fewer than the United Kingdom. While the conflict between individual freedom and public security is an issue everywhere, it is only each country's specific history which determines which type of quarantine will be considered more acceptable than another. In France, for example, quarantine is used for sick and infected farm animals, whereas in the United States it is considered acceptable for use on humans, notably immigrants, as a method of forging national identity.

These pages on quarantine are revealing. As a public health historian, Zylberman examines the issue in hindsight, qualifying global health's claims of novelty, pointing instead to the enduring use of archaic forms of prevention, namely isolation from threats.
He quite obviously finds this worrying, having already expressed concern during the 'Epidemik' exhibition he commissioned with Antoine Flahaut at the Paris Cité des Sciences.
While both bemused and exasperated by simulation exercises - he himself organised a virtual simulation for the exhibition – Zylberman sees quarantine as a return of the worst type of injustice. His reflection on the relationship between fiction and reality thus turns into an examination of how justice and equality play a part in the distribution of epidemic anticipation techniques.

It is nevertheless somewhat surprising to see Asia depicted as backwards when there are numerous examples of how the region has used methods of preparedness, such as simulation and surveillance, suggesting an alternative management of epidemics[8]. The author seems to resort to the image of Oriental despotism which Europe and the United States, jointly reject as a model despite their differences, thus effectively unifying their health security policies. In the book's final two chapters, 'Les démons de l'Atlantique' [Demons of the Atlantic] and 'Anticiper' [Anticipating], the author opposes the response of Asia's 'autocratic regimes' to SARS outbreak and of Africa's 'failing states'[9] fighting AIDS on the one hand to the 'imperial pretensions' of Europe and the United States presiding over global health management on the other. Epidemics seem to challenge the ability of states to uphold their sovereignty. Whereas 'autocratic regimes' brutally reaffirm their borders, 'failing states' let theirs collapse, while the imperial powers "seek to establish their borders way beyond their territories" by imagining in advanced that epidemics might invade them" (p. 483).

This distinction highlights the fact that global health and its various scenarios for the future are a way for states to compete with each other and redefine their borders.We might still wonder whether the notions of "autocratic regime" and "failing state" are not merely the product of the imperialistic worldview of Western states. By distinguishing between prevention, precaution and preparation, three principles from different eras which have merged together as part of the modern global health approach, we are better able to compare

7 E. Ackerknecht, 'Anticontagionism between 1821 and 1867', *Bulletin of the History of Medicine*, 22, 1948, p. 562-593.
8 K. Mason,"Becoming Modern After SARS: Battling the H1N1 Pandemic and the Politics of Backwardness in China's Pearl River Delta." *Behemoth – A Journal on Civilisation,* 2010(3), p. 8-35.
9 This concept is taken from Francis Fukuyama in *State-building: Governance and World-order in the Twenty-first Century*, London, Cornell University Press, 2004.

how different states combine these three principles according to their own history and borders, free from any external standard of justice. Zylberman's study shall, by its breadth and scope, remain a milestone for those seeking to better understand this distinction and the political and moral issues that it entails.

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