
Introduction

SARS in Social and Historical Context

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The SARS, or severe acute respiratory syndrome, epidemic of 2003 was one of the most dangerous health crises of our times. Although, amazingly, it lasted only a few months, the SARS epidemic rallied health specialists, journalists, and government officials on an unprecedented scale. It also raised important questions about the role of national sovereignty in an increasingly interconnected world. Other epidemics have had a more substantial impact in terms of human life. AIDS killed three million in 2003, compared to under 1,000 killed by SARS. As the essays in this book make clear, even the overall economic, political, and social impact of the SARS epidemic remains debatable.

In retrospect, SARS is probably best seen as a harbinger of future events that might be catastrophic for the global system as we know it today. Other “new” diseases, such as avian (bird) flu, threaten dire consequences—as the World Health Organization (WHO) has been quick to point out.¹ However, SARS need not be the prelude to something far worse if governments and public health agencies learn from the events of 2003. This book thus has a didactic agenda with the broadest possible policy implications: Can we avoid the Big One?

Background: Outbreak and Containment

The media coverage generated by SARS was tremendous. But we must also situate this disease in the context of popular fears, uncertainties, and social stigma, as well as within the historical framework of epidemics and infectious diseases in China, global economic and political processes, and the emergence of “new” nationalisms and competing modernities in East Asia. The various essays collected here provide a manifold perspective on SARS as a mode of “social suffering,” that is, an illness experience and trauma event affecting huge numbers of people. SARS transformed, if only temporarily, the ordinary routines and rhythms of everyday life—raising the specter of massive disorder and political breakdown. The local responses evident in (among other places) Hong Kong and Beijing were as much a consequence of the global reaction to SARS as a reaction to the infection itself.²

The SARS epidemic emerged in social conditions already undergoing rapid change and in a political environment rife with uncertainty. The entire regional economy of East Asia was slowly recovering from the collapse of 1997; the public panic generated by SARS further undermined local economies. The skittishness was palpable: months after the epidemic had “ended,” a single case in Singapore (a medical technician who contracted SARS in the course of his lab work) sent financial markets in East Asia plummeting.³ In the years immediately preceding the outbreak, China’s urban centers were inundated with migrants from the countryside who were far too numerous for effective biopolitical control of the kind imposed during the Maoist era.⁴ Furthermore, the growing specter of a potential HIV/AIDS crisis in China conditioned public responses to SARS.⁵

Over the past two decades, the global HIV/AIDS epidemic has encouraged public health authorities to become increasingly interested in the private lives and behaviors of patients. The intimacies of biosocial knowledge thus provided a unique idiom through which illness experi-

ences could be publicized, but also produced powerful forms of social stigma—based on perceived notions of moral or social deviance. The monitoring process often compounded the suffering of disease victims and undermined effective treatment. In short, the targets of biomedical scrutiny had every incentive to avoid health officials.

SARS, too, prompted an urgent “desire to know.” Only in this case, health-care professionals themselves bore much of the social stigma associated with SARS, and the taint of the disease affected their families and friends in an ever-widening circle of suspicion (see chapters 7 and 9). The HIV/AIDS struggles demonstrate the urgent need for integration and communication across various fields of medicine, as well as heightened sensitivities to the human dimensions of illness, suffering, and healing.⁶

These issues reemerged during the SARS epidemic and are addressed, in one way or another, in the chapters that follow. The most obvious parallel between SARS and the handling of previous global epidemics is the way in which social experiences were shaped by rational bureaucratic language, biomedical knowledge, and political ideologies.⁷ In many respects, China’s handling of SARS reflected “archaic” modes of governance: mass mobilization, authoritarian control from the center, and the uncompromising use of military and police power (see chapter 3). In April 2003, no one was certain where SARS would lead: Would it become a worldwide disaster with high lethality on the order of the 1918 influenza pandemic? In China, this would have meant widespread death, economic paralysis, and political chaos—conditions that recall historical episodes of dynastic collapse and succession to new regimes.

The public health infrastructure was in fact overwhelmed, according to James Maguire, the leader of a CDC team that traveled in China monitoring the progress of the disease. Chinese officials and international experts were visibly shaken by the crisis and worried that the final outcome might ultimately be disastrous. Detainees in Beijing hospi-

tals were escaping, because rates of transmission were higher in clinical contexts than on the streets. The escapes ended abruptly when security forces were stationed in and around hospitals.⁸

Much of this was rightly blamed on the Chinese government, which at the early stages of the epidemic withheld information, controlled the media, and discouraged international access to SARS victims. China's central leadership, headed by the recently installed President and General Secretary Hu Jintao and Premier Wen Jiabao, fired two key figures, the minister of health and the mayor of Beijing, who immediately became scapegoats for government blunders. Then, in what can only be described as an amazing reversal, after implementing draconian techniques that could never be deployed in democratic societies, China emerged as a paragon of public health responsibility.⁹ "The international loss of face and China's dramatic policy reversal after April 20, 2003, set in motion the actions that brought SARS under control," Joan Kaufman writes in chapter 3.

What happened next is a global lesson in how political will and national mobilization are required for tackling serious threats to public health, and provides important lessons for China's long overdue response to its growing epidemics of AIDS, tuberculosis, and hepatitis. China's extensive health infrastructure, albeit weakened by years of underinvestment, rose to the occasion once China's national leadership provided the mandate for action. Few countries in the world have China's capacity for national mobilization, which extends to the remotest corners of this large and increasingly independent nation.

An important turning point was the May 1, 2003, national holiday weekend. The Chinese government cancelled the holiday—under any other circumstances an almost unimaginable political action—to prevent interregional travel. Any school or hospital that had at least one confirmed case of SARS was quarantined. A 1,000-bed quarantine facility was constructed in Beijing; work continued twenty-four hours a day, and the project was completed in less than a week. Other hospitals were converted to handle infectious disease patients. James Maguire, chief of

parasitic diseases at the Centers for Disease Control (CDC), reports that 5,327 cases of SARS were treated in China, with at least 349 known deaths.¹⁰

Based on observations at Beijing hospitals in May, Maguire reports that the success of infection control was due in large part to the dedication and determination of nurses and doctors who worked under life-threatening circumstances. Medical and public health students, out of school because of the holiday, were stationed in the wards to monitor the micro-procedures of hygiene and treatment, thus ensuring that health-care workers did not transmit infection across patients or among themselves.¹¹

By the end of May, the spread of SARS had been effectively controlled. Confirmed cases were accounted for and quarantined in hospitals. The epidemic had peaked and quickly waned. Chinese-style intervention was extolled as a means of controlling future epidemics.

Many observers hope that the SARS experience will produce a more transparent handling of China's growing AIDS problem. This does not seem to be happening, however. Meanwhile, the winter 2004 avian flu outbreaks were subject to government cover-ups, followed by delayed control measures. China, Vietnam, and Thailand were all slow in responding to avian flu,¹² which leads one to speculate that there are larger political forces at work. When a nation's health sector threatens economic interests, government authorities are reluctant to commit themselves to costly control programs. In such cases, international pressure and WHO intervention may be the only solution.

SARS in the United States

"If the SARS outbreak has taught us anything," said Ilona S. Kickbusch of the Yale School of Public Health, "it is how interconnected the world is. . . . This isn't just an issue for developing countries. . . . When the SARS outbreak spread to Canada we saw just how close to home it re-

ally was.”¹³ In March 2003, with cases already being identified in Canada, the attention of U.S. health and immigration authorities shifted dramatically. The passive observation of an overseas crisis was transformed into an urgent priority almost overnight. One example highlights the magnitude and unpredictability of the threat: A student at the University of Connecticut came down with a fever after flying home from Germany. One of his fellow passengers had been a doctor who had worked recently in Singapore hospitals. The student went to classes. Public health officials identified everyone in those classes and people who had come into contact with the individual. The student tested negative.¹⁴

Popular fears in the United States, even in the absence of large numbers of actual cases,¹⁵ were in part caused by the general medical and epidemiological uncertainty about SARS. Experts had some idea of the potential magnitude of the threat, but this information was itself dangerous, potentially redoubling and intensifying popular fears. In April, Megan Murray of the Harvard School of Public Health (the author of chapter 1) concluded that the disease is more contagious than smallpox—with each case having the potential of infecting five other people. In a population of one million, about 900,000 could contract the illness. And with a 4 percent mortality rate, approximately 36,000 people could die. Murray concludes, “If these data were even close to correct, we could have a very serious global pandemic of SARS.”¹⁶

During this period, popular fears also fixated on the possibility of bioterrorism and contamination of the American food supply. “The greatest fear,” a *New York Times* article mused, “is that the next plague will be the equivalent of the meteorological perfect storm, possibly from an untreatable respiratory infection that spreads rapidly.”¹⁷ The specter of worldwide catastrophe, fed no doubt by Hollywood films and popular thrillers, helps frame current perceptions of future epidemics—views that build on incomplete knowledge of disease transmission.

It is not surprising that stringent precautions were quickly estab-

lished to identify and manage potential SARS cases in the United States. In April 2003, for example, Harvard University placed a moratorium on university-sponsored or university-related travel to China, Hong Kong, Singapore, Taiwan, Vietnam, and Toronto, Canada, saying: "University funds will not be used to support trips . . . nor will the University facilitate or otherwise endorse travel to these areas until further notice."¹⁸ The ban was lifted for Canada in May, but destinations in Asia remained on the list through the summer of 2003. Students who defied this warning faced a ten-day suspension upon their return. Harvard's policy reflected the general positions taken by other American institutions, including business corporations, nonprofit organizations, and government agencies. SARS loomed large in the American imagination during the winter of 2002 and spring of 2003.

The History of Epidemics and Infectious Disease in China

Until the early twentieth century, there was no clear separation between curative and preventative medicine in China.¹⁹ There was, however, what might be called a "high-order medical system," as opposed to the various popular medical practices. The former was embedded in the Confucian tradition and supported by imperial patronage. All Chinese medical systems were oriented toward personal and family problems resulting from individual cases of illness. Epidemics were beyond the scope of conventional knowledge. Nor did healing traditions foster a means for the delivery of medical care during famines or floods.²⁰

The first public vaccinations against communicable diseases in the Chinese-speaking world were carried out by the British colonial authorities in Hong Kong during the late nineteenth century.²¹ Plague was common in Hong Kong between 1894 and 1924, taking a considerable toll. From May to September 1894, plague reached epidemic proportions there, killing at least 2,550 persons. Many of the sufferers were

transported to Canton (Guangzhou) for treatment. Those affected were frequently abandoned, and the bodies of the dead were dumped. An official report states that the most difficult aspect of controlling the epidemic was the resistance of families to the removal of sufferers to hospitals under colonial management.²² There was international frustration that the Chadwick report of 1883, which detailed hygienic conditions along the southern Chinese coast and the potential for an outbreak of infectious diseases, had not been taken seriously. If it had, many insisted, the epidemic would not have started.²³ At the same time, it is clear that Western medicine was no more effective than traditional Chinese medicine in treating infectious diseases.²⁴

In 1931, the European Conference on Rural Hygiene, organized by the League of Nations, called the first international meeting on rural health care. The conference recommended that first priority be given to the control of infectious diseases within the broader agenda of modernizing health care in China and providing equal services for all.²⁵ Efficient public health interventions were based on an indigenous system of collective responsibility called *bao jia* (literally “protect families”) that facilitated record keeping and household registration. This *bao jia* system allowed local police to identify everyone in the community, thereby facilitating not only vaccination but speedy burial of cholera victims. In some cities, streets were widened, pigs were banned in urban districts, and residents were flogged for leaving garbage in front of their houses.²⁶

During the mid twentieth century, the newly established Chinese communist state attempted to combat infectious disease on a massive scale. “Prevention first” was the official slogan that guided national public health policy.²⁷ In 1949 (the year the Communist Party took power), a Central Plague Prevention Committee organized medical teams to combat epidemics throughout the country. The state sponsored vaccination projects, aimed mainly at eradicating smallpox and plague, as

well as cholera, diphtheria, and typhoid.²⁸ “No other country in the world has so successfully controlled venereal diseases,” writes one observer.²⁹

Smallpox, which had been rampant a decade before, had been eradicated by the mid 1950s. The last outbreak was reported in March 1960 in Yunnan province.³⁰ William Foegen’s essay on “Surveillance and Antiepidemic Work,” is one of the best descriptions of the operation of the rural health stations established in the 1950s.³¹ He notes that the success of China’s anti-epidemic programs was due to the preexisting medical system, which, “unlike that of most countries, provides a mechanism for vaccinating every person.”³² Furthermore, despite the seeming uniformity of policy at the national level, procedures and practices differed markedly at the local level.³³

Infectious diseases remained a problem in rural areas, even as national rates were plummeting. During the Great Leap Forward (1958–60), the Ministry of Health blamed the continuing problem of infectious diseases on the “increased susceptibility of sections of the [rural] population.” The staggering problems of famine and economic collapse in the countryside were only mentioned in passing.³⁴ Vast amounts of money were spent on pest extermination campaigns during this period, while funds for the control of communicable diseases declined.³⁵ Not surprisingly, serious health crises occurred and party officials found scapegoats to take the blame.³⁶ This was precisely what also happened during the SARS epidemic half a century later.

The Chinese government consolidated its authority during the late 1950s, partly through a series of patriotic health campaigns aimed at rectifying glaring deficiencies. On 12 January 1956, the *People’s Daily* announced a nationwide campaign to eradicate the “four menaces”: mosquitoes, flies, rats, and sparrows.³⁷ Although this movement was short-lived, in Heilongjiang that year, 200,000 youths were organized to catch pests. A year later, the minister of health at the time, Li Dequan, admit-

ted that preventing epidemics “cannot be accomplished within a short time.” Furthermore, he noted, “occasional ineffectual Patriotic Health Movements” did not help solve long-term problems.³⁸

A classic example of mass mobilization focused on a disease was the 1958 campaign against venereal disease in Jiangxi province. Every social and political organization in the province was mobilized to eradicate the targeted diseases; health education was promoted via pamphlets, lectures, posters, plays, radio broadcasts, newspaper articles, and small-group discussions.³⁹ The campaign built on techniques used in China during in the 1930s, as well as on government programs to eliminate hookworm in the United States.⁴⁰

Mass mobilizations of this nature had a number of political effects. First, they extended and legitimated the party’s control in the Chinese countryside.⁴¹ Second, they reinforced the authority of elite (primarily urban) medical experts and doctors.⁴² The gaps between these urban-based medical elites and the less prestigious, underfunded rural health operatives were glaringly evident during the SARS epidemic.

The case of the 1942 cholera epidemic in Yunnan province, which killed nearly 200 people, provides an interesting historical parallel to the 2002–2003 SARS crisis. The public was “deeply disturbed by the epidemic and expended a tremendous amount of energy in measures to fight it.” Local hospitals and schools took preventative measures and provided treatment at little or no cost; posters were plastered throughout the district describing modes of contagion. But Western medicine was not used to combat the disease.⁴³

Hsu discovered that Western medical knowledge and practices did not conform to local cultural rationalities and healing methods. Hsu’s rich ethnographic account points to a number of factors that are overlooked in most assessments of Chinese epidemics. First, patients reported that cholera vaccinations were painful, a view that did not encourage others to follow.⁴⁴ Second, during the Yunnan epidemic, police began monitoring streets and ensured that inhabitants kept public

spaces clean.⁴⁵ This may have created tensions within the community, singling out certain districts or families as unsanitary and hence prone to contagion. Perceptions of social stigma developed very quickly in the wake of the epidemic and worked against containment. Hsu notes that “nurses even went out into the streets urging people to adopt certain preventative and curative measures; yet they found few people willing to follow these measures.”⁴⁶ The force of stigma was reflected in the ritual life of the community. Early in the epidemic, elaborate funerals were organized by the families of those who died of cholera. Soon, however, funeral processions were reduced in size and ostentation to avoid public scrutiny—thus reinforcing the stigma associated with disease.⁴⁷

Hsu argues that, in the local context, illness becomes a sign of moral contamination, just as moral behavior indexes one’s potential danger as a spreader of disease.⁴⁸ Joseph Bosco’s work on local efforts to control SARS in Hong Kong parallels some of Hsu’s conclusions, even though the two epidemics were separated by six decades.⁴⁹

Yuqun Liao has proposed the notion of “local disease” to describe conditions that arise within specific cultural or linguistic domains, making them difficult for foreigners to understand.⁵⁰ A local disease, as defined by Liao, blurs the division between physical illness and social imbalance, calling attention to the dialectical relations between society and cosmology. This suggests that cultural factors are crucial for understanding how epidemics are perceived. Local reactions to SARS, as outlined in chapters 7 and 9, reaffirm the value of this approach.

The Organization of the Book

Megan Murray, an epidemiologist at the Harvard School of Public Health, sets out the epidemiological parameters of the SARS epidemic in chapter 1. She places the Chinese case in global perspective and outlines the uncertainties regarding its causes. Murray’s work is critical for understanding the terrifying potential of SARS. In chapter 2, Alan

Schnur, who was the leader of a WHO team in Beijing that monitored and advised the Chinese government during the epidemic, gives us an insider's perspective on the events of 2003. Schnur describes the role that WHO experts played on the ground and recounts their experiences of working with China's Ministry of Health and the political leadership. The WHO became a major player during the epidemic, thus reaffirming the organization's global role and setting the stage for future interventions.

Joan Kaufman views the SARS epidemic within the broader context of the Chinese health-care system in chapter 3. She identifies the unique features of that system and shows how the Chinese government made the transition from global pariah early in the outbreak to international hero at its terminus. Kaufman argues that rural health care in China has been systematically dismantled over the past two decades and that the current focus on fee-based financing for curative care has weakened the response to infectious disease. She provides an in-depth case study of how the SARS mobilization worked in one poor rural county. As local officials came to sense their careers hanging in the balance, economic and political resources were allocated to control SARS. The handling of the epidemic was thus rooted in control measures that underplayed individual civil liberties to serve the needs of public safety. If this program succeeded, it also exposed the deterioration of rural public health care.

The next section of the book deals with the political and economic consequences of the epidemic. Tony Saich, a close observer of Chinese politics, describes the complex and multifaceted response to SARS. Saich treats the health emergency as a window on China's new, often problematic status in the international community. Writing as a political scientist, his focus is on the higher ranks of the Chinese Communist party. Thomas Rawski, who has devoted his career to understanding the Chinese economy, cautions against overemphasizing the economic effects of SARS. He also questions the accuracy of Chinese government statistics that depict an economy experiencing steady, unparalleled

growth. SARS was potentially a major threat, but the epidemic was controlled quickly enough, according to Rawski, to minimize what could have been much greater economic damage. Erik Eckholm served as *New York Times* bureau chief in Beijing during the SARS crisis, and, as such, he was in a unique position to observe the actions of Chinese government officials. In chapter 6, he describes the often-surreal events as they unfolded.

The chapters that follow examine the social and ethical effects of SARS. Dominic Lee and Yung Kwok Wing discuss the psychological impact of SARS by recounting their personal experiences as physicians in a Hong Kong clinic at the height of the epidemic. Their testimony, reproduced in chapter 7, conveys the bone-chilling terror experienced by those in the front lines of treatment. Hong Zhang surfed the Internet and spoke with her friends in China to collect examples of the gallows humor that surfaced during the SARS outbreak. Her account in chapter 8 reveals a feature of the 2003 crisis that escaped international attention but would be familiar to anyone who has lived in countries controlled by socialist regimes.

The book concludes with two essays that set the SARS epidemic in comparative, cross-cultural perspective. Arthur Kleinman and Sing Lee explore the psychological and cultural dimensions of SARS in chapter 9. They focus on the social stigma that rapidly conditioned public and personal responses to the crisis. Their analysis may help mitigate the trauma experienced by people who fall victim to future epidemics—thereby encouraging voluntary compliance with quarantine measures. James L. Watson's essay focuses on the long-term consequences of the SARS crisis and what it portends for the future of international travel and personal mobility. Watson, an anthropologist who studies local responses to globalization in Hong Kong and China, argues in chapter 10 that SARS was a warning—a wakeup call that demonstrates the inherent fragility of the global system.

Where Do We Go from Here?

Seen in the context of avian flu and the major outbreaks of flu in the twentieth century—most of which appear to have originated in south China—the SARS crisis suggests that a new approach to understanding human epidemics must be found. Virologists need to work in teams consisting of ecologists, biologists, soil scientists, economists, political scientists, demographers, epidemiologists, anthropologists, and ethicists. This is the only way we can hope to understand the intersection of ecological, social, and biological processes that underlie emergent infectious diseases. At issue here are the migration of waterfowl, the intensive cultivation of ducks, chickens, and pigs in settings of dense human habitation, trade in and sale of wild animals, the migration of workers, and the complexities of local cultural practices. The isolationist (and elitist) conventions of traditional academic disciplines make it difficult for younger scholars to engage in this type of team research. This is not a matter of funding alone. The real problem lies in reward and promotion structures that are increasingly obsolete in the twenty-first-century world. If this book accomplishes anything, we hope that our collective efforts will help promote the cause of teamwork and transdisciplinary research.

At this writing (winter 2005), avian flu has killed 46 people in Vietnam, Cambodia, and Thailand. Scientists all over the world are working—flat out—to find a vaccine for this emergent threat.⁵¹ We can only hope that this book will be the record of an isolated biosocial event, a historical curiosity that will not be repeated in the twenty-first century.