

ABSTRACT

Title of Document: SARS DISCOURSE ANALYSIS:
TECHNOSCIENTIFIC RACE-NATION-
GENDER FORMATIONS IN PUBLIC
HEALTH DISCOURSE

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This study's main objective is to analyze public health urgencies as socio-cultural phenomena produced in public health discourses with a focus on severe acute respiratory syndrome (SARS). Five questions guide this study: What claims do different social worlds make to constitute public health discourses that produce biopolitical subjects in raced-nationed-gendered formations? What are the central concepts in each social world's SARS discourse? In what ways is the socio-cultural construction of risk central to the discursive construction of SARS? In what ways does each of the social worlds produce biopolitical subjects in raced-nationed-gendered formations? What are the underlying public health ethics in SARS discourse? This study analyzes data sources across three arenas—science, media, and public policy—and specifically four social worlds—government-science, non-government-science, mainstream news media, and government-public policy. Data sampling units consist of written text and visual images published in public health reports, scholarly papers, newspaper and magazine articles,

Congressional Hearing transcripts and prepared witness testimonies. The conceptual and methodological framework draws from numerous areas of inquiry: critical race studies; feminist studies of science; public health ethics and social inequalities in public health; media framing; grounded theory; and discourse analysis.

Several discursive frames and configurations prominently emerge: (1) the *War on SARS*; (2) *Oppositional Metaphors and Analogies*; (3) *Ir/Responsible Global Biopolitical Citizens*; (4) *SARS Risk Discourse*; (5) *Biopolitical Subjectivity in the “New Normal”*; and (6) *Face Masks and Metaphors of Un/Masking*. In confluence, these frames yield a *Trio of Human-Technology Figures*. I consider this *Trio* an analytic construct in an APACrit-informed, feminist technoscience approach to public health discourse analysis. The overall SARS discourse, contoured by already existing narratives of race, nation and gender, rearticulates these narratives as a technoscientific race-nation-gender project. As an expression of public health ethics, SARS discourse manifests ethical tensions in relation to theorizations of justice.

This study contributes to knowledge in women’s studies, critical race studies, feminist studies of science, and public health ethics, by demonstrating the richness of public health discourse as an object of inquiry and the necessity of a critical race, feminist technoscience analysis of ideological formations that have social justice implications.

SARS DISCOURSE ANALYSIS:
TECHNOSCIENTIFIC RACE-NATION-GENDER FORMATIONS
IN PUBLIC HEALTH DISCOURSE

By

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Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2008

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Preface

“...when one speaks, one speaks a language that is already speaking, even if one speaks it in a way that is not precisely how it has been spoken before.”

Judith Butler, “Doing Justice to Someone”

Dedication

For my parents,

Horatio H. Jen

&

Rosa Y. Jen

Your love and constant encouragement made this possible.

Acknowledgements

The writing of this dissertation could not have happened without the generosity and support of many.

I am grateful to have worked with a dissertation committee so giving in its guidance, feedback, and critical thought. For always challenging me to grow as an interdisciplinary scholar, I thank Dr. Ruth Zambrana, Dr. Nancy Struna, Dr. Seung Kyung Kim, Dr. Linda Aldoory, and Dr. Phil Nash. I have benefited from their scholarly expertise, as well as their charge to pursue social justice research that is personally meaningful. Additionally, I thank Dr. Laura Mamo for her contributions to my major field and dissertation prospectus.

I thank the Department of Women's Studies faculty and graduate students for developing my understandings of feminist inquiries and commitments. In their *Feminist Theory* courses, Dr. Claire Moses and Dr. Katie King stimulated my interests in feminist epistemologies and convinced the class that we, too, could theorize. Countless thanks to Laura Nichols, Annie Carter, Cliffonia Howard and Sara Beauchamp, for always having answers.

Being a part of the Consortium for Race, Gender and Ethnicity as a beginning graduate student through the very end of dissertation writing has fostered my understandings of intersectionality and communication across disciplines and communities. I consider the Consortium a touchstone of my graduate student career and of the university's commitment to its citizens. I express thanks to Dr. Bonnie Thornton

Dill and Dr. Amy McLaughlin for inviting me to the party and to Dr. Zambrana for enabling me to stay till the end.

The Asian American Studies Program has provided considerable professionalization assistance. Many thanks to Dr. Timothy Ng, Dr. Larry Shinagawa, Dr. Lisa Mar, Dr. Kandice Chuh, and Dr. Tracy Chung.

I thank Dr. Ruth Zambrana for more than I can possibly express in this moment, including: her invaluable guidance and feedback on this project, our thought-provoking conversations on public health and race politics, her invitations to work on research and publications, her unbelievable ability to calm the unsettled graduate student psyche and rein in extravagant proposals, her commitment to students and intersectional scholarship, and her unwavering support of me, my work, and my various interests. Over the past six years, she has been my professor, graduate director, advisor, major field chair, and dissertation chair. Most especially, Dr. Z has been my mentor, dedicated to growing young scholars as part of a social justice project. I am grateful for her work.

This whole process has meaning because of family and friends. I thank those who have helped clarify thoughts by providing feedback, often in late night conversations, on papers and presentations throughout the years. This includes Women's Studies graduate students, as well as Dr. Pooja Khera and Elaine Chen who were Jarvis neighbors and still dear friends over a decade later. I am especially fortunate to have Cipriano Martinez in my life for, among so many things, his wonderful spirit, humor, and kind perspective. Finally, I am thankful to my parents who have inspired and supported me in innumerable ways. They have always demonstrated intellectual curiosity, the rewards of diligence,

and the necessities of generosity. With my deepest gratitude, I dedicate this journey to them.

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Chapter 1: Introduction

This is a qualitative, interdisciplinary study of public health discourses, particularly discourses constituting public health urgencies, and specifically those constitutive of severe acute respiratory syndrome (SARS) as a socio-cultural phenomenon. The field of public health is predominantly conceptualized using population health and biomedical frameworks. While these frameworks increasingly address health disparities across race, gender and socioeconomic status, they have traditionally ignored public health discourses as social, political, economic, cultural and ethical sites of race, nation, and gender formations. Debates within the burgeoning field of public health ethics arise from the field's uncertain social responsibilities to marginalized communities. In such contestations, public health's advocacy role is often placed in opposition to the field's professional guise of objective scientific neutrality and its stark adherence to utilitarianism at the expense of civil liberties.

This study shifts the conceptualization of public health from population health and biomedical frameworks towards a critical race, feminist technoscience approach that more broadly conceives of what constitutes *public health discourses*. "SARS" as a public health urgency is produced by social worlds and arenas other than epidemiology and infectious disease research. During the multi-country SARS outbreak of 2002-2003, a media blitz assaulted the public's consciousness. I remember constant, repetitive coverage of white space-suited figures disinfecting Hong Kong apartment buildings, of Asians accessorized in the latest designer face masks, of Mayor Bloomberg lunching on Chinatown spring rolls to defuse myths of Yellow Peril's newest invasion. "SARS

digital folk art” pieces launched a thousand mouse clicks.¹ SARS imagery grabbed not only my attention but piqued my interest in gendered and sexualized technoscientific representations of Asian/Americans.

An Illustrative Narrative

"How do we have anything to do with SARS?...I have been in this country for 17 years and have never been back to China. I don't have anybody visiting me from China. I don't have SARS in my body. We don't have SARS."²

Bei Bei Gu, New York Chinese Cultural Center, dance school principal

“I think they’re bigots. You can’t live afraid of everything,” Carolyn Grazer criticized school officials and parents.³ Grazer’s six-year old granddaughter was a student at Landis Intermediate School located in Vineland, New Jersey during May 2003. During early May 2003, Landis school officials, feeling pressure from parents, abruptly barred artists and dancers of the New York Chinese Cultural Center from entering the school out of fear that the performers were infected with Severe Acute Respiratory Syndrome (SARS). The New York Chinese Cultural Center had for the past three years traveled from New York City to Vineland—a town located between Atlantic City and Philadelphia—to perform Chinese folk dances and to educate Landis Intermediate School students on Chinese culture. The performers had prepared months for the event and had traveled three hours the day of the performance, only to have school officials abruptly uninvite them at the school entrance. According to the school officials’ defense, their actions were in response to parental fears that the Center’s performers carried the SARS virus and to subsequent threats that parents would keep children out of school. After officials turned away their invited visitors, the school reportedly sprayed Lysol in the hallways.⁴

Members of the Chinese Cultural Center were outraged over the incident and demanded an apology. Executive director of the Center, Amy Chin responded, "It is one thing to be fearful of people who have just returned from Asia and another thing to be fearful of somebody just because he or she is of Asian descent."⁵ Of the five artists and dancers turned away, none had been to Asia in the past two years or had visitors from Asia in the past year.⁶ The Center dance school's principal stated, "I have been in this country for 17 years and have never been back to China. I don't have anybody visiting me from China. I don't have SARS in my body. We don't have SARS."⁷ The Landis incident, reported in Chinese language newspapers, elicited responses throughout Chinatown. A waiter stated, "They think we are Chinese, we don't speak English, it's easy to bully us."⁸

The Landis incident exemplifies moments of anxiety during 2002 and 2003, when Asia, North America and the rest of the world felt gripped by the uncertain terrors of a new pandemic. Severe acute respiratory syndrome (SARS)—a fatal form of upper respiratory infection—spread to 29 areas around the globe from fall 2002 to summer 2003.⁹ This pandemic, in its beginning stages, spread rapidly with a high mortality rate generating fears among health and medical experts that a sequel to the influenza of 1918, which ultimately killed more than 21 million people around the world, had arrived.¹⁰ Widespread media attention prompted unprecedented collaborative scientific efforts to identify and recommend public health measures.¹¹ Popular conceptions of Asian Americans as menacingly contagious Yellow Perils were revisited,¹² and media representations arguably constructed Asians and Asian Americans as medical scapegoats, much like during the first bubonic plague outbreak in San Francisco.¹³

Factors and elements implicated in this public health urgency and its consequences can neither be fully described nor measured by case fatality ratios or healthy cash flow statements. The SARS emergency had short-term economic effects—depressing the airline, tourism, and retail sectors—and long term impacts that are still being assessed.¹⁴ In March 2003, the World Health Organization declared SARS a “worldwide health threat,” and 10% of flights between Asia and the U.S. were cancelled that month.¹⁵ China’s internal political and ideological structures became the object of much international blame.¹⁶ In April 2003, President Bush issued an executive order that added SARS to the list of communicable diseases for which the federal government could impose quarantines.¹⁷ The San Francisco Chinatown Chamber of Commerce reported a 30% decline in neighborhood businesses during the height of the SARS crisis.¹⁸ Other reports cited a 90% drop in business revenues compared to the previous year in San Francisco and New York Chinese communities.¹⁹ The economic impact on New York City Chinese businesses is considered greater than September 11th’s impacts. As rumors spread throughout Chinese communities in Los Angeles, Seattle, San Francisco and Honolulu that employees and owners were infected and deathly ill from SARS, shoppers and tourists steered clear of Chinese businesses and communities. Those traveling from Asia to the United States report voluntarily isolating themselves for a period of time, in order to pacify their families’, co-workers’, and patrons’ fears of infection.²⁰ Chinatown business owners blamed this drop on the public’s “imagined association” of SARS with Chinatowns and Asian Americans.²¹

How can this “imagined association” be understood? What role do public health authorities and knowledges play? During the height of the 2003 SARS outbreak, Barry Bloom, dean of the Harvard School of Public Health, stated:

Unanticipated outbreaks will continue to be a reality, and the world must be ready to move in whatever direction is needed. Infectious diseases do not respect national boundaries. One important implication of September 11, 2001, is that the security of the United States increasingly depends on expertise around the world in identifying potential health threats and in having the scientific capability to address those threats locally.²²

Situated in the post-September 11th climate, public health authorities, such as Bloom, consider the nation as in a heightened state of emergency and uncertainty where infectious diseases render national boundaries weak and porous, and efforts to manage both public health and national security rely upon capable science and effective public health infrastructures to coordinate local and global activities. Reference to infectious diseases as not respecting national boundaries has undeniable racialized, gendered, and nativist undertones—especially during moments of national (in)security and public emergencies. The proverbial elephant-in-the-room—that is racialized, nationalized, and gendered formations²³—are situated in public health discourses but are often cloaked, or even deemed irrelevant, under ethical guises of neutrality, utility, and pragmatism. Some scholarship in public health ethics have started making connections between the sacrifice of civil liberties for the common good within the context of national security, public health safety and differentially racialized populations.²⁴ Critical analyses of public health discourses ought to make these connections and formations visible and meaningful.

The dance school principal’s emphatic response to the Landis incident— “How do we have anything to do with SARS...I have been in this country for 17 years and have never been back to China. I don't have anybody visiting me from China. I don't have

SARS in my body. We don't have SARS." ²⁵—should not be dismissed as a baseless whine. The “imagined association” of SARS with Asian Americans is an example of a dimension of public health discourse in need of analyses. I provide this specific narrative to illustrate *public health urgencies* as socio-cultural phenomena in need of critical analyses. My use of “socio-cultural phenomena” draws from scholarship in the sociology of social problems. Social problems, or issues of contestation, are not unmediated reflections of an objective reality. Rather social arenas, such as science, make claims in the construction of social problems.²⁶ The ordering of phenomena into objects of contestation additionally occurs within the realm of culture and ideology.

Much more than calculating probable number of cases and case fatality ratios, a critical approach to what constitutes public health discourses must be developed. Posing the following questions, for example, opens the ontological and epistemological possibilities for more fully describing constructed public health urgencies: What is public health discourse? What are the discursive elements of a public health urgency? What social worlds, discourses, and representations are involved? What are the biopolitical subjects involved? What role does the concept of risk play in the formations of race, nation, and gender? What are the underlying public health ethics in these discourses?

Issues of Study and Research Questions

This study is particularly interested in discourses that constitute *public health urgencies* involving infectious disease outbreaks. This study deliberately uses *public health urgencies* to denote public health events, conditions, situations, findings, developments, representations, and/or indicators that are deemed worthy of attention,

concern, worry, panic, and anxiety. Especially in a post-9/11 era, public dialogue—including mainstream news sources, authoritative public health and biomedical publications, popular films and digital folk art—feature coverage and narratives of an impending influenza pandemic, the latest food-borne infectious disease outbreak, mutated viral agents soon to leap from animal hosts to human hosts, disorganized and under-resourced emergency preparations, etc. Emerging infectious diseases—compared to other public health concerns such as racial-ethnic health disparities, chronic diseases, or even endemic infectious diseases—are represented as more spectacular objects of concern.

The field of outbreak epidemiology defines an “outbreak” as a disease cluster or epidemic in which the number of disease cases is greater than the expected number.²⁷ Contrary to the assumption that only infectious agents cause disease outbreaks or epidemics, toxic chemicals and physical conditions also cause disease outbreaks or epidemics—that is greater numbers of disease cases than expected in given populations.²⁸ World Health Organization (WHO) defines “outbreaks” as sharing six general characteristics: (1) “urgent public health emergency” followed by “rapid efforts to care for cases, prevent further spread, and bring the outbreak under control”; (2) “unpredictable nature”; (3) “alarming for the public” and “socially and economically disruptive”; (4) “high political profile”; (5) “newsworthy”; (6) “maintained by infectious agents that spread directly from person to person, from exposure to an animal reservoir or other environmental source, or via an insect or animal vector...[with] human behaviours nearly always contribut[ing] to such spread.”²⁹ WHO moves beyond a definition of “outbreak” that only considers strict epidemiological data and disease etiology; it also

considers the social, economic and political dimensions. However, I argue that a critical race, feminist technoscience approach shifts the concept even further from standard outbreak epidemiology. It frames public health urgencies as discourses situated within already existing race-nation-gender projects. In addition, this approach works with the concept of *public health discourse* and considers risk and public health ethics integral components.

“SARS,” in many ways, is a “boundary object.” Geoffrey Bowker and Susan Leigh Star define boundary objects as objects and things, abstract enough to inhabit several communities, yet concrete enough in meaning to fulfill the informational requirements of each of them.³⁰ I am less interested in “SARS” as a syndrome, that is its clinical manifestations, or as an object of bench laboratory research, such as the structure of its viral genome. Rather, I am interested in how “SARS” is framed, what it means as a disease frame, and the elements of its production as a public health urgency in narrative and visual discourses. When I refer to “SARS,” I refer to it as a boundary object—as a *public health urgency*—that inhabits several social worlds’ narrative and visual discourses. While recognized objects in each world, “SARS” may hold different meanings in each. I am interested in meanings that are both variant and consistent across worlds. I draw from Adele Clarke’s use of social worlds/arenas in her situational analysis approach to grounded theory:

We assume multiple collective actors (social worlds) in all kinds of negotiations and conflicts in a broad substantive arena focused on matters about which all the involved social worlds and actors care enough to be committed to act and to produce discourses about arena concerns...there are also individuals, an array of nonhuman and hybrid actors..., discourses on related topics (narrative, visual, historical)...³¹

Social worlds/arenas are conceptual tools for understanding organizations of social life. Social worlds operate in “larger *arenas* of concern” (author’s emphasis) in which ““various issues are debated, negotiated, fought out, forced and manipulated by representatives’³² of the participating worlds and subworlds.”³³ This study considers the production of “SARS” through narrative and visual discourses in three arenas—science, media, and public policy—and in four social worlds—government-science, non-government-science, mainstream news media, and government-public policy.

As the central question, this study asks: What claims do different social worlds make to constitute public health discourses (particularly those of infectious disease outbreaks) that produce biopolitical subjects in raced-nationed-gendered formations? In order to address this central question, this study considers the following sub-questions. First, what are the central concepts in each social world’s SARS discourse? Second, what is the “risk” component of each of these discourses? Third, in what ways do these discourses construct raced-nationed-gendered formations? What are these formations? Fourth, what are the underlying public health ethics?

The articulation of this issue of study, the formulation of these inquiries, and the methodological approaches to data analysis, require an interdisciplinarity that places into conversation relevant scholarship from a number of discrete and, at times, overlapping (inter)disciplines. In *Chapter 2*, I review briefly the strains of scholarship woven, collided, and coalesced into this study’s conceptual framework—a critical race, feminist technoscience approach to public health discourse analysis. I draw from the following areas: public health ethics and social inequalities in public health; critical race studies

Figure 1.1: Central research question and sub-questions

Central Research Question	Sub-Questions
<p>What claims do different social worlds make to constitute public health discourses (particularly those of infectious disease outbreaks) that produce biopolitical subjects in raced-nationed-gendered formations?</p>	<p>Questions to ask each social world:</p> <ul style="list-style-type: none"> • What are the central concepts in each social world’s SARS discourse? • In what ways is the socio-cultural construction of risk central to the discursive construction of SARS? • In what ways does each of the social worlds produce biopolitical subjects in raced-nationed-gendered formations? What are these formations? • What are the underlying public health ethics of these SARS discourses?

including critical race theory, media framing and disease; feminist critiques of science, technology, and medicine; and, risk studies. Methodologically, this study is a discourse analysis. *Chapter 3* provides an overview of methodologies that inform this study’s approach to discourse analysis—an amalgamation of narrative discourse analysis, visual discourse analysis, and media framing analysis. Second, it outlines this study’s procedures for data collection and analysis. *Chapter 4* presents results and emergent thematic concepts, using textual and visual illustrations of these concepts. *Chapter 5* discusses these concepts within this study’s conceptual framework, describes the discursive frames constitutive of SARS discourse, and presents the central SARS configuration—the *masked Asian/American woman*—as an analytic construct in a critical race, feminist technoscience approach to public health discourse analysis. Finally, in *Chapter 6*, this study’s implications and contributions are presented and discussed.

Chapter 2: Contributing Literatures

Introduction

This study is a critical race, feminist technoscience approach to public health discourse analysis. I draw upon conversations in several paths of inquiry: public health ethics and social inequalities in public health; critical race theory and critical race studies; media framing and disease; feminist critiques of science, technology and medicine; and risk studies. Conversations in these fields, that are pertinent to this study, share similar perspectives on socio-cultural phenomena. Aspects of social reality—such as laws and policies, visual images and texts, knowledges and ways of knowing, bodies and identities—are produced within hierarchical systems and situated within domains of oppression and resistance. Such productions function as sites where ideology, politics and economics produce or reproduce systems of power and inequality along intersecting dimensions of race, nation, gender, and sexuality. While these conversations share this common perspective, they do not necessarily share similar objects of inquiry and thus can differ in their particular theoretical and analytical intents. With “public health urgencies,” specifically “SARS,” as the shared object of inquiry, this study works towards synthesizing these conversations into a conceptual framework that builds upon a critical race, feminist technoscience approach to public health discourse analysis.

My use of “public health discourse” builds upon definitions and concepts put forth by the World Health Organization, the Institute of Medicine, Michel Foucault, and Deborah Lupton. I emphasize *public health ethics* as an often overlooked dimension of public health discourse. As an analytical approach, I place theorizations of justice and

perspectives on *social inequalities in public health* from *public health ethics* and *Asian Pacific American critical race theory (APACrit)* in conversation to work towards an APACrit-informed public health ethical framework concerned with social justice. Public health discourse includes media discourse. *Media framing* scholarship addresses the discursive frames through which diseases, science, and public policies are produced in the media. *Feminist critiques of science, technology and medicine, critical race studies,* and *risk studies* inform “SARS discourse” as a frame for interrogating the kinds of representational work done by technoscientific race-nation-gender formations in the nation’s post-September 11th identity project.

In this chapter, I review neither the origin stories, nor canonical works, in full detail that are thought to characterize each area of inquiry. Rather, I highlight scholarship exemplary of each area of inquiry’s relevant conversations that, when elaborated upon and synthesized, formulate this study’s conceptual framework.

What is Public Health Discourse?

Defining public health discourse necessitates defining **public health** and **discourse**. Public health is generally understood as the science and practices of population-based health promotion and disease prevention.³⁴ In the preamble to its Constitution, World Health Organization (WHO) considers health to be the state of physical, mental and social well-being for all people.³⁵ More specifically, the Institute of Medicine (IOM) in 1988 defined public health in three parts: *mission, substance,* and *organizational framework*.³⁶ The mission is to assure the conditions in which people can be healthy.³⁷ Its substance consists of actions based upon epidemiological evidence and

directed towards disease prevention and health promotion.³⁸ Public health's organizational framework primarily refers to the activities of formal government structures and secondarily to efforts by private and voluntary organizations and individuals.³⁹

In its 2003 *The Future of Public Health in the 21st Century*, the IOM shifts its organizational framework focus from governmental public health infrastructure towards an intersectoral "public health system" concept that highlights public-private interactions. The report explains:

The concept of public health system describes a complex network of individuals and organizations that have the potential to play critical roles in creating the conditions for health. They can act for health individually, but when they work toward a health goal, they act as a system—a public health system.⁴⁰

Actors, who can act individually or with other actors towards assuring conditions for healthy populations, in the public health system, include: government public health agencies, communities, health care delivery system, employers and businesses, media and academia.⁴¹ I approach the "public health" of "public health discourse" as IOM's operationalized "public health system." IOM's operationalization allows for an expansive notion of what and who constitutes public health actors in a public health system. Public health actors are not just government public health agencies, but also non-governmental institutions, such as employers, media, and community organizations and individuals. This incorporation of individuals allows for theorizations of the biopolitical subject as part of public health discourse analysis.

IOM defines the community as "a group of people who share some or all of the following: geographic boundaries; sense of membership; culture and language; common norms; interests, or values; and common health risks or conditions."⁴² Communities refer

to “individuals and families, as well as the various organizations and associations...nonprofit, nongovernmental, voluntary, or social entities, including ethnic and cultural groups.”⁴³ This expanded notion of actors in the public health system allows for the activities of non-governmental individuals to be considered part of public health discourse. In other words, the implementation of voluntary quarantine by Asian American travelers from Asia to the U.S. could be considered an aspect of public health discourse, even if the quarantine is not imposed by governmental agencies.

This study draws from Michel Foucault’s concept of “discourse.” Foucault approaches “discourses” as a shift away from narrow structuralist uses of signifiers and the signified. He proposes discourses as:

...[groups of] practices that systematically form the objects of which they speak...discourses are composed of signs; but what they do is more than use these signs to designate things. It is this *more* that renders them irreducible to the language (*langue*) and to speech. It is this ‘more’ that we must reveal and describe.”⁴⁴

Objects are not already in existence—they are constituted by the discourses or groups of practices that simultaneously elicit the object’s existence.⁴⁵ Languages and practices mutually constitute discourses and formulate the objects of discourses. Based upon his work on madness, Foucault writes:

The unity of discourses on madness would not be based upon the existence of the object ‘madness’, or the constitution of a single horizon of objectivity; it would be the interplay of the rules that make possible the appearance of objects during a given period of time: objects that are shaped by measures of discrimination and repression, objects that are differentiated in daily practice, in law, in religious casuistry, in medical diagnosis, objects that are manifested in pathological descriptions, objects that are circumscribed by medical codes, practices, treatment, and care.⁴⁶

Applied to public health, could it be said that the *unity of discourses on public health would not be based upon the existence of the object ‘public health’* but upon the interplay

of the rules that make possible the appearance of objects [that is objects of public health knowledge and practice] *during a given period of time...?* What are these systems of rules, practices and languages that make possible the existence of such objects? What are these objects? Are these objects *shaped by measures of discrimination and repression?* Could these objects be thought of as racialized, gendered, and nationed formations?

Deborah Lupton examines “discourses and practices of public health.” “Public health” is defined as a “form of ...social medicine...which directs its professional attention towards the health of populations, aggregated bodies, instead of individual bodies.”⁴⁷ She compares the amount of socio-cultural critique directed towards biomedicine with that of public health, and finds such critiques neglect public health as a worthwhile site of analysis. She states that:

...just as biomedicine is socially and culturally constructed, public health and health promotion are socio-cultural products, their practices, justifications and logic subject to change based on political, economic and other social imperative. Just as biomedical knowledges, discourses and practices create their objects and fields of interests...the knowledges, discourses and practices of public health serve both to constitute and regulate such phenomena as ‘normality’, ‘risk’ and ‘health’.⁴⁸

She is not alone in comparing and contrasting biomedicine and public health.

Scholarship in public health ethics note bioethics’ neglect of public health and the insufficiencies of bioethics, which is based in biomedicine, for developing public health ethics. While biomedicine has recently garnered much attention as a “symbolic system of beliefs and a site for the reproduction of power relations, the construction of subjectivity and of human embodiment,”⁴⁹ the author suggests that such critiques of public health should also be pursued. This study, too, considers the discourses of public health as worthy of critique.

APACrit-Informed Public Health Ethics

Rarely does scholarship attempt to bridge critical race theory (CRT) and public health ethics, or even bioethics. Naomi Seiler provides a brief commentary on the possible insights CRT can offer bioethics. She notes that bioethics involves abstract discussions of values and principles and, like law, derives its legitimacy from claims of universality. Arguments in CRT scholarship she finds useful include analyses of white privilege as structured throughout the legal system and other socio-political structures, as well as the examination of civil-rights law that operate through “race-neutral” principles to sustain white dominance. These CRT insights can make visible and challenge the white privilege in bioethics. White privilege operates in bioethics in terms of the overwhelmingly white composition of the profession. This professional white privilege goes unquestioned and the perspectives become naturalized. CRT’s critique of white privilege in bioethics also lends insight to the types of studies and issues bioethicists choose to pursue. Focus on physician-patient relationships presupposes access to the medical system and obscures the disproportionate number of people of color who do not have access to doctors. Similarly, a focus on new and advancing technologies—technologies that are primarily enjoyed by white privileged consumers—directs resources away from pursuing scholarship on the health needs of the disadvantaged.⁵⁰

While Seiler does not explicitly extend her argument to public health ethics, it is a logical extension—as she suggests bioethics reprioritize its preoccupations with doctor-patient relationships and, instead, examine the health needs of disadvantaged populations, particularly those without access to healthcare who are disproportionately people of

color.⁵¹ Building upon and shifting somewhat away from Seiler's commentary, I ask about the implications of CRT, particularly Asian American critical race theory (APACrit), on public health ethics. As CRT developed in critique of the law, and APACrit developed in response to CRT's limited racial paradigm, public health ethics developed out of and eventually in critique of bioethics. Public health and law are interrelated, literally as public health law, and as institutions and discourses that can be critiqued through similar lenses. In this section, I work towards an APACrit-informed public health ethical framework that places into conversation critiques of "legal liberalism," the ethics of racial-ethnic health disparities, the significance of historically contextualizing the experiences of marginalized communities, and theorizations of justice.

Asian Pacific American Critical Race Theory (APACrit)

In suggesting public health discourses produce biopolitical subjects in raced, gendered and nationed formations, this study draws from Michael Omi and Howard Winant's "racial formation." They define *race*: "...race is a concept which signifies and symbolizes social conflicts and interests by referring to different types of human bodies."⁵² *Racial formation* is the "sociohistorical process by which racial categories are created, inhabited, transformed, and destroyed."⁵³ In terms of *racial projects*, racial formation is a "process of historically situated *projects* in which human bodies and social structures are represented and organized."⁵⁴ Placed into conversation with Foucault's discourse, racial projects can be thought of as discourses—" [groups of] practices that systematically form the objects of which they speak..."⁵⁵ —the objects being racial formations. Thus, public health discourse can be thought of as a racial project that

produces racial formations. Challenging essentialized assumptions about race, racial formation highlights processes by which meanings of race are systematically shaped into being, through social, political, cultural and historical processes. However, public health discourse is not limited as a racial project. Rather, it is a race-nation-gender project that produces raced, nationed, and gendered formations.

APACrit emerges as a response to critical race theory's limited theorization of racial formations. When Asian American racial formations are foregrounded in CRT, the limitations of CRT's Black-White binary are revealed, as well as how the relationships between race, law, immigration and citizenship are under-examined. Additionally, scholarly attention towards the role of racial formations in national identity constructions is underdeveloped in CRT scholarship. APACrit contributions include examinations of racial formations as simultaneously nationed within the context of immigration and citizenship laws, national security, racial-profiling, border maintenance, and the nation-form's identity project.

Leti Volpp engages four distinct discourses of citizenship and demonstrates their insufficiencies through the critical lens of "Asian American racialization." First, *citizenship as legal status* designates individuals as legal citizens according to Constitution or statute; however, legislation has historically racially excluded Asian Americans from legal citizenship. Second, *citizenship as rights* is based upon a liberal framework for rights that presumes civil, political, and social rights of citizens as necessary to achieving equal membership in society.⁵⁶ She exposes contradictions in liberal notions of citizenship that require its subjects to be abstract citizens where all citizens have equal claims to equal rights. This, however, proves fictitious for racialized

subjects, as the government has historically failed and continues to fail to protect their civil, political and social rights. These first two discourses frame the citizen as a passive object that receives rights, while the last two discourses conceive of the citizen as an active subject with subjectivity. The third distinct discourse, *citizenship as political activity* holds as its basis political participation in the community; however, Asian Americans have historically been prevented from full participation.⁵⁷ Finally, *citizenship as identity/solidarity* refers to people's collective experiences. However, stereotypes of "yellow peril" and "model minority" operate on the assumptions that Asian Americans are incapable of democratic practice. News media portray Asian American public figures as non-American and foreign. Drawing from Edward Said's concept of Orientalism—that the West constructs itself in opposition to its simultaneous construction of the East—Volpp states "In fact, 'citizen' and 'Asian' could be said to function as antonyms in the United States context."⁵⁸ The author's APACrit analysis demonstrates how historic and contemporary Asian American racializations through legal status, rights, political activity and identity discourses preclude guarantees of Constitutional citizenship. While it is more acceptable in the contemporary moment to conceive of the Asian American as legitimate recipients of formal rights, it sits less well to consider Asian Americans as political subjects actively engaged in and able to represent the identity of the nation.⁵⁹

In conversation with Volpp's liberal discourse of *citizenship as rights*, Neil Gotanda provides a critique of "legal liberalism" that can be translated to a critique of racial ethnic health disparities. "The law" is seen as external realm of social authority that holds power over communities. Legal liberalism—the predominant legal framework—is comprised of three core aspects: (1) ethical and moral considerations are irrelevant to

laws; (2) because laws are not informed by ethics or morals, they can function as neutral tools of social policy; and (3) race and gender are seen as outside “the law” rendering the race, gender, class and sexuality of legal subjects as “accidents” outside the law.⁶⁰ Critical race theory and APACrit challenge legal liberalism⁶¹ and the ideology of equal opportunity—components of which include objectivity, neutrality, colorblindness, and meritocracy.⁶² Legal liberalism considers racial and gender formations outside the law—leading to ahistorical and decontextualized narratives of social inequality.⁶³ CRT demands a contextual/historical analysis of law and race that operates from the presumption that racism has impacted all aspects of life, including income, immigration, education, health care, and political representation.⁶⁴ It is interdisciplinary and approaches the challenge of eradicating racial oppression as part of a larger project to end all intersecting oppressions. CRT values the knowledge of people of color based upon critical reflection of their experiences and political practice.⁶⁵ This critique of legal liberalism can be applied to ethical perspectives on racial ethnic health disparities.

In addition, APACrit’s approach to justice, or what Mari Matsuda would label “outsider jurisprudence,” is a useful challenge to “legal liberalism.” APACrit still upholds the usefulness of law, or at least, in the possibilities of a new jurisprudence that is characterized by CRT’s methodology, description of the law, and vision of social justice. In terms of methodology, CRT utilizes testimonies and narratives as forms of epistemology and consciousness for people of color.⁶⁶ In terms of a description of the law, CRT critiques the law as a political tool used to the advantage of those in power. However, the law plays dual roles—as both tools of oppression and liberation. Jurisprudence is a conception of the law which includes a definition of justice. APACrit

defines justice as “antiracist,” “substantive,” and “attainable.” A social justice agenda must have an antiracist agenda. Rights must be substantive and not just process oriented. Attainable justice demands that each person be entitled to the material means necessary for a good quality of life. The responsibility to protect positive rights rests with society and not only with marginalized communities and individuals.⁶⁷ APACrit’s “outsider jurisprudence” can inform a public health ethics that values the provision of positive rights, is concerned with social justice, and pays particular attention to historically marginalized groups.

Public Health Ethics and Social Inequalities in Public Health

In their historiographies of public health ethics, scholars consistently cite bioethics as the field of origin, consider the beginnings of the 21st century as the official birth of public health ethics, and make note of incongruities between bioethics and public health ethics. Simply stated, bioethics primarily addresses the protection of individual liberties, freedoms, and autonomy within biomedicine. On the other hand, public health ethics primarily focuses upon the ethics of population-based health practices within the framework of public health’s pursuit of community health and well-being, even when that pursuit utilizes state coercion and paternalism.

Public health ethics scholars criticize the prioritization of biomedicine and bioethics as contributing to social and economic inequalities. Daniel Callahan and Bruce Jennings provide a brief origin story for bioethics and public health ethics. They map two divergent paths: bioethics and biomedicine on one hand, and public health ethics and public health on the other. Bioethics emerged in the late 1960s as a response to human subject abuses, patients’ rights movement, and challenges posed by a biomedicine that is

characterized by high-technology. In concert with biomedicine, bioethics with its focus on organ transplants and genetics has continued to this day in the limelight, overshadowing public health and public health ethics. They state: “That focus on technology has continued, as has a lack of thoroughgoing engagement with issues of social and economic inequality, which have been the staples of attention in *public health* since the 19th century” (authors’ emphasis).⁶⁸ The authors note that public health ethics is resurging in public visibility due to at least two factors: (1) emerging infectious diseases and (2) the growing recognition that public health of populations is determined more by “good health measures” and socioeconomic conditions, rather than advances in high-technology biomedicine. The authors do recognize, though, that public health requires biomedicine, such as disease screening programs, in order to accomplish its mission.

Callahan and Jennings are not alone in their critique of biomedicine’s role in perpetuating inequalities. The Institute of Medicine (IOM), in *The Future of Public Health in the 21st Century*, provides a critique for the need to create a more inclusive framework to assure the public’s health in the 21st century. It considers the nation ill-prepared to meet future health challenges. It cites three trends in national health investment, policy and practice as possible societal explanations for why the nation is not meeting its health potential:

1. the disproportionate preeminence given to the individual over the population health approach;
2. the greater emphasis on biomedical over prevention research and on medical care over preventive services; and
3. neglect of the evidence (and of the need for more empirical research) about the multiple factors that shape individual and population health, from the political to the environmental and from the social to the behavioral.⁶⁹

Another possible explanation for the nation's failing health suggests systemic issues. The backbone of the public health system—government public health agencies—is underfunded, politically neglected, and excluded from conversations and partnerships engaged in assuring the public's health.⁷⁰

Given how much it invests in health care and research, the United States does not fulfill its population health potential. Compared to other industrialized nations, it has lower average life expectancies, higher infant mortality rates, higher cancer incidence rates, increasing birth defects related to environmental factors, increasing prevalence of obesity and chronic diseases, and growing concerns in emerging infectious diseases and bioterrorist threats. In addition, IOM notes that the use of national averages obscures racial and ethnic, gender, and socioeconomic disparities in health status and suggests disproportionate health expenditures in biomedical research and medical care as the likely explanation.⁷¹ It is estimated that 95% of health spending is in biomedical research and care, while 70% of avoidable mortality is shaped by environmental and behavioral factors.⁷² While investments in American biomedicine do allow for disease prevention and treatment, these benefits are not shared by the estimated 14.6% of the nation's population without health insurance.⁷³ IOM argues that investment and priority be placed in public health approaches to prevention and population-oriented approach to health improvement, as opposed to the disproportionate resources invested in biomedicine.⁷⁴

While a critique of biomedicine is provided, the role of public health ethics in IOM's framework for the future of public health is barely developed in an explicit way, nor is it discussed in depth in Lupton's "discourses and practices of public health." The

IOM does note that health, as a social and political undertaking, is a collective good and fundamental to a productive, democratic nation.⁷⁵ However, this stance is not so simply interpreted. Ethical tensions emerge when, for example, individual liberties are pitted against collective goods in the control of communicable diseases. It is the ethical foundations and frameworks of public health practices that are often left implicit and assumed.⁷⁶ Lupton writes, “While the institutions of public health and health promotion often display very overt signs of the state’s attempts to shape the behaviour of its citizens, where this attempt at control becomes invisible is in the justification used.”⁷⁷ Ethical frameworks are used to formulate, evaluate and justify public health practices. However, these frameworks are often the “not-said” of public health discourse. According to Foucault, “The manifest discourse, therefore, is really no more than the repressive presence of what it does not say; and this ‘not-said’ is a hollow that undermines from within all that is said.”⁷⁸ This study considers this “not-said” public health ethics as an integral dimension of public health discourse.

A central ethical tension in public health interventions during times of crises and uncertainty is the balancing of individual liberties and common good. **Utilitarianism** is a predominant ethical framework that drives public health’s mission and decision-making. Public health practices are ethically justified as long as they produce the “greatest happiness for the greatest numbers.” Every individual’s “utility” counts and counts equally.⁷⁹ However, an inherent contradiction resides in utilitarianism. If public health interventions are to produce the “greatest happiness for the greatest numbers” and every individual’s “utility” counts equally, then certain individual’s happiness must count more than another’s.

Liberalism, considered a rejection of utilitarianism, is another significant ethical framework that drives public health practices. Simply stated, while utilitarianism accepts the treatment of people as means to an end, liberalism suggests that people should be treated with respect, as ends in and of themselves. Liberalism holds that inherent in human beings is the capacity to make life-decisions, and individuals should have the rights to make these decisions. Libertarians seek to protect freedom of choice and only seek government protection of negative rights. Siding with minimal state infringements on individual rights, libertarians oppose paternalistic policies.⁸⁰ Egalitarian liberals, on the other hand, see “right to choice” as “meaningless without adequate resources.” Without a positive right to services and resources, individuals do not have fair equality of opportunity. This is an argument similar to those made in critical race theory—substantive rights over formal rights—with respect to race. Public health then needs to interpret positive rights to health and health care. A minimum level of health is necessary to ensure equality of opportunity. Thus, health is not unlike basic liberties such as freedom of speech. Health should be a government guaranteed right. The government is responsible for assuring a minimal quality and quantity of life and for providing health care to assure this minimum. However, an **alternative egalitarian liberal approach** considers health not as a prerequisite for freedom of choice but health as a result of individual choice. For example, instead of aggressive policies to control smoking, this alternative perspective would advocate education and would charge individuals with making their own choices.⁸¹

With respect to rights and justice within the realm of health for marginalized populations, scholarship addresses public health’s ethical responsibilities. **Critical ethics**

acknowledges that moral problems faced in public health are partially the “result of institutional arrangements and prevailing structures of cultural attitudes and social power.”⁸² **Advocacy ethics** refers to public health’s responsibility to advocate for health and well-being, with an eye towards equality and social justice, especially for those most marginalized.⁸³ According to Childress et al, social justice, human rights and health are all interconnected. Public health’s concern with sanitation and poverty carries over into its focus on the social determinants of health.⁸⁴ Poverty, racism, sexism are social injustices implicated in health status.⁸⁵

Nancy Kass contends public health has a positive responsibility to implement programs which reduce social inequalities.⁸⁶ Her proposed framework for the ethical analysis of public health programs focuses largely on interrogating and balancing benefits and burdens. There are three broad categories of burden/harms in public health programs: (1) risks to privacy and confidentiality, (2) risks to liberty and self-determination, and (3) risks to justice, especially when proposed programs only target certain groups. Public health regulations and legislation are potentially coercive and pose risks to liberty.⁸⁷ She states: “...the law can impose...threats to justice if regulations impose undue burdens on particular segments of society.”⁸⁸ Public health authorities are ethically required to opt for approaches that are fairly implemented and that pose the least risks to moral claims (liberty, privacy, opportunity, justice).⁸⁹ The concept of fairness, an ethics principle of distributive justice, denotes the fair distribution of benefits and burdens.⁹⁰ It is ethically unacceptable for a public health intervention to subject single populations to burdens while other populations benefit.⁹¹ The author adds: “That benefits be implemented fairly is even more important if restrictive measures are proposed.

Injustice is wrong for its own sake, and also for the material harms it can evoke. Social harms result if social stereotypes are created or perpetrated...”⁹² She puts forth procedural justice (which entails democratic processes, public hearings, and community involvement) as an ethical foundation that works towards a fair balance of benefits and burdens.

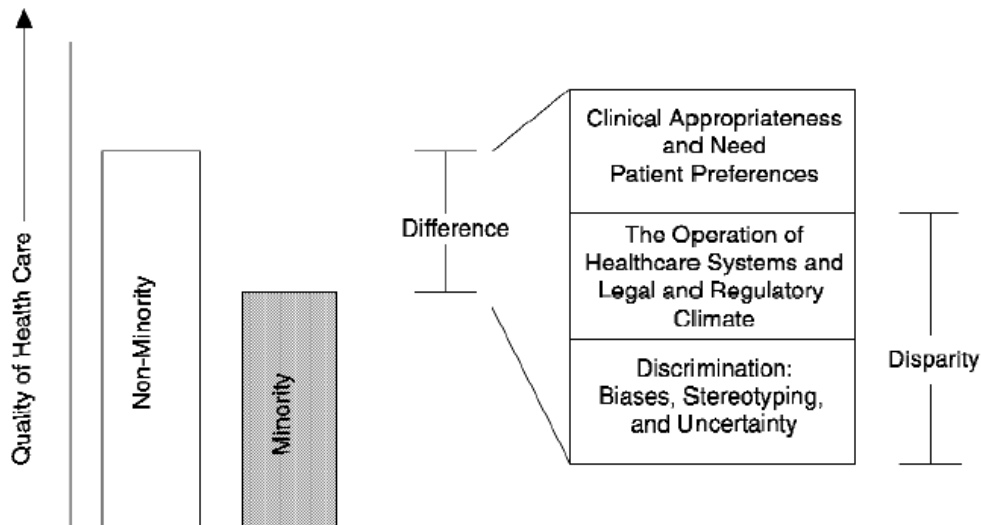
However, this advocacy responsibility is debated within the public health profession, as some prefer the field stay removed from advocacy in order to maintain a professional guise of objective scientific neutrality.⁹³ According to Ronald Bayer and Amy Fairchild, public health needs to decide to which camp it wishes to commit—traditional public health values of paternalism and the necessary sacrifice of individual liberties for the common good or bioethical values of individual liberties, autonomy, privacy, and anti-paternalism.⁹⁴ Public health ethics has traditionally embraced a utilitarianism and paternalism that bioethics could not justify.⁹⁵ They state: “Compulsion and, indeed, coercion—so anathema to this tradition of bioethics—are central to public health.”⁹⁶ They explicitly repudiate the camp that centers social justice advocacy as a public health mission.

Towards an APACrit-Informed Public Health Ethics

I consider Gotanda’s APACrit critique of “legal liberalism” translatable to a critique of ethical frameworks in public health. Legal liberalism considers ethical and moral considerations impertinent to “the law,” approaches the race, gender and class of legal subjects as outside the law’s interest and influence, and disavows the relevance of historically contextualizing inequalities. An analogous critique applies to the *neutrality thesis*’ interpretation of racial and ethnic health disparities.

The IOM and *Healthy People 2010* envision the future of the nation’s health—the achievement of healthy people in healthy communities through a national effort to improve population health and to eliminate health disparities.⁹⁷ The IOM defines racial and ethnic disparities: “*disparities* in healthcare as racial or ethnic differences in the quality of healthcare that are not due to access-related factors or clinical needs, preferences, and appropriateness of intervention” (author’s emphasis).⁹⁸ It visually depicts this definition (Figure 2.1).⁹⁹ Differences in the quality of healthcare between minorities and non-minorities are due to: “clinical appropriateness and need patient preferences,” “the operation of healthcare systems and legal and regulatory climate,” and “discrimination: biases, stereotyping, and uncertainty.”¹⁰⁰ The IOM’s focus on racial and ethnic disparities is only on the latter two levels, leaving access-related factors largely unexamined. An example of an access-related factor that contributes to difference in the quality of health care between non-minorities and minorities is the geographic

Figure 2.1 Racial Ethnic Disparities in Quality of Health Care
 Source: Institute of Medicine, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare* (Washington, D.C.: National Academies Press, 2003), 3-4.



distribution of higher-quality healthcare facilities and residential segregation patterns that limit minority population access to higher-quality facilities.¹⁰¹ This access-related factor is not regarded as a racial ethnic disparity and, according to the neutrality thesis, is not subject to heightened moral scrutiny.

Madison Powers and Ruth Faden offer two ethical theses—**neutrality thesis** and **anti-discrimination thesis**—as lenses to examine racial ethnic disparities.¹⁰² They seek to answer two moral questions: 1) “..when do ethnic and racial disparities in the receipt of health services matter morally?” and 2) “...when do racial and ethnic disparities in health outcomes among patient groups matter morally?”¹⁰³ The first question is directly related to IOM’s disavowal of access-related factors as racial ethnic disparities. The authors use the term “disparity” in a general sense, often interchangeably with difference. The neutrality thesis is only concerned with the moral implications in disparities in health outcomes among patient groups.¹⁰⁴ For instance, if African American men were less likely to have screening colonoscopies than white men and if these differences did *not* result in different health outcomes, then the neutrality thesis would *not* find the situation worthy of heightened moral scrutiny. The neutrality principle operates under the assumption that the “moral value of medical interventions is generally instrumental...whether it is good or bad to receive or fail to receive a medical intervention depends on the impact each option would have on individual health and well-being.”¹⁰⁵ An APACrit-informed public health ethic challenges the neutrality principle based upon its underpinnings of colorblindness, neutrality, and objectivity.

On the other hand, the *anti-discrimination thesis* is inline with APACrit’s position on racial oppressions as issues of social justice. Disparities that disfavor racial and ethnic

groups, with respect to health services received and health outcomes, independently require moral scrutiny.¹⁰⁶ The authors consider these racial and ethnic groups as “morally suspect categories”—“analogous to legally suspect categories in equal protection law.”¹⁰⁷ Based upon the anti-discrimination thesis, if African American men were less likely to have screening colonoscopies than white men, regardless of the health outcome, moral scrutiny ought to be applied. Similarly, if health outcome disparities exist in ways that disfavor racial and ethnic groups, then the anti-discrimination thesis would find cause for moral scrutiny. According to the authors, “under the anti-discrimination thesis, either type of disparity—alone or in combination—is treated as morally problematic as long as the disparity disfavors a morally suspect group.”¹⁰⁸ While the neutrality thesis considers the moral value of medical interventions only instrumental, the authors contend:

...in the case of racial and ethnic minorities...a different moral value is at stake. The very fact that a minority population might receive fewer services believed to be beneficial suggests the potential for morally culpable discrimination. This is a significant moral concern in its own right, regardless of the medical consequences. Under the anti-discrimination thesis, disparities of either sort trigger an additional or heightened level of moral scrutiny beyond that warranted by health outcomes disparities generally.¹⁰⁹

The anti-discrimination thesis, therefore, morally values the provision of positive rights, in the context of healthcare, for racial and ethnic minorities. Furthermore, parallels are drawn between the anti-discrimination thesis’ valuation of positive rights, public health advocacy ethics (such as Kass’s framework based upon public health’s positive responsibility to reduce social inequalities), and APACrit’s conviction that rights ought to be “antiracist,” “substantive,” and “attainable.”¹¹⁰

The neutrality thesis, on the other hand, saves little room for an ethical examination of healthcare access as shaped by historical, political, social, economic, and cultural forces. On the other hand, a public health ethics analysis—that is informed by APACrit’s “outsider jurisprudence” and “Asian American racialization” within citizenship discourses—provides a contextualization of “morally suspect groups.” Most relevant to this study’s SARS discourse analysis is a contextualization of Asian Americans as public health threats in the United States. In following paragraphs, I briefly review scholarship that addresses *Chinese in America as Public Health Threats, 1848-1909*. This time period is chosen for reasons related to dates of major disease outbreaks and standard periodizations of Asians in American history.¹¹¹ The first and second plague outbreaks in San Francisco occurred from 1900-1904 and 1907-1909, respectively, and in Honolulu in 1900. Cases of leprosy in Hawaii were above average from 1870 to 1895.¹¹² Public health responses included mandatory quarantines, inoculations, travel restrictions, and razing of Chinatowns.¹¹³ Honolulu’s entire Chinatown burned to the ground in the Great Fire of 1900 as a result of public health measures.^{114,115}

Public health is not situated outside of politics; the construction of diseases and their meanings inscribe bodies and spaces as pathological.¹¹⁶ In medical history descriptions of plague outbreaks, native-born Caucasian Americans¹¹⁷ perceived Chinese and Chinatowns as unsanitary,¹¹⁸ filthy,¹¹⁹ disease-ridden,¹²⁰ morally depraved, and breeding grounds for contagious diseases.¹²¹ The plague was viewed as a dirty “oriental” disease, and the public health response is critiqued by historians as racism couched in science.¹²² Public health officials viewed Chinese as culturally different and blamed

them and their supposedly unsanitary living conditions for the spread of diseases, while actually providing little medical assistance to the Chinese.¹²³ Chinese laundries were stigmatized as mediums for transmitting bacteria¹²⁴ and were illegally restricted under the guise of public health concerns.¹²⁵ This medical scapegoating, a manifestation of anti-Chinese sentiment in immigration restrictions¹²⁶ and the predominant miasmatic theory of disease which blamed epidemic outbreaks on poor sanitary conditions,^{127,128} also deflected attention from public health's inability to contain communicable diseases.¹²⁹ Newspaper coverage of San Francisco's first outbreak, along with political and medical interests, medically scapegoated the Chinese population and further marginalized them as different and inferior based upon arguments of immorality.¹³⁰ Historians have challenged the assumption that Chinese in America were passive recipients of racist practices in the guise of public health. Rather, they were political agents in active resistance to unjust encroachments and exclusions.¹³¹ The Chinese community protested unjust public health measures,¹³² such as forced quarantining and inoculations that further stigmatized the community,¹³³ and were eventually vindicated in federal cases that found these measures to be racist violations of the Fourteenth Amendment.¹³⁴

In particular, Chinese women during the nineteenth century were stereotyped as depraved, degenerate, and threats to the physical vitality of the Anglo-Saxon civilization.¹³⁵ Even within literary representations during the time period, prostitutes—gendered and raced as Asian women—were depicted as threatening sources of disease and contamination to upper-class Anglo-Saxon society.¹³⁶ Medical theories deemed Chinese women as bearers of venereal diseases.¹³⁷ Pathologized as syphilitic prostitutes,¹³⁸ their immigration to the U.S. was at the discretion of state officials. Many

Chinese women were turned away at American shores and sent back to China if they could not produce papers testifying to their “good character.”¹³⁹ Based upon these arguments of immorality and disease contagion, the U.S. government systematically excluded Chinese women from immigration.¹⁴⁰

Immigrant medical examinations in the late 1800s and early 1900s functioned to discipline incoming immigrants into industrial citizens. “Good” industrial citizens were those that remained healthy, were useful workers, and were not dependent upon the nation’s charity. Upon arrival, the Public Health Service (PHS) examined immigrants and issued medical certificates to those found bearing contagious diseases. Diseases were classified and, in turn, classified immigrants as laborers capable or incapable of performing in the work force, or becoming “good” industrial citizens. Strategic testing for hookworm in Chinese immigrants served to subvert class distinctions and enforce exclusion.¹⁴¹ The classification of Chinese immigrants as potentially “good” or bad industrial citizens was based in the strategic use of immigrant medical examinations—not simply a medical technology but a technology of immigration and labor, national identity formation, and racialization.

Much of the literature that addresses Chinese in America as threats to the nation’s health focuses on particular diseases, outbreaks and other public health events. Specifically, scholarship focuses on particular disease outbreaks and afflictions—plague, leprosy, tuberculosis, small pox—and bodies and spaces as “contagious.” In general, six types of sources exist: (1) sources that focus specifically on Chinese immigrants and plague events in San Francisco or Hawaii; (2) sources that focus on the history of the plague in general, mention the outbreak in San Francisco and Hawaii, and implicate

Chinese immigrants; (3) sources that focus on leprosy and Chinese in America; (4) sources that more broadly examine the interactions of the Chinese community and public health concerns; (5) sources that function as histories of Chinese Americans that include mentions of outbreaks, prostitution, and medical stigmatization; and (6) sources that focus on the racialized genders and sexualities of Chinese immigrant men and women as “contagious” and “threatening” to white womanhood and the nation’s health.

An APACrit-informed public health ethics provides a conceptual framework with which to analyze public health discourses. It guides, for example, the following inquiries: (1) What are the underlying ethical tensions? (2) How, and in what ways, are these tensions resolved? (3) Who frames these tensions and their resolutions, and what are the power dynamics involved? How are these processes raced, nationed, and gendered? (4) How are the benefits and burdens of public health knowledges, policies, and interventions distributed? How is the distribution raced, nationed, and gendered? (5) How does the discourse (not) work towards social justice? How is justice conceptualized? How is it (not) informed by “outsider jurisprudence?” Is the justice “anti-racist,” “substantive,” and “attainable?” (6) How does the discourse assign responsibilities, rights, and risks? In what ways are the assignments raced, nationed, and gendered? (7) Is the discourse contextualized, especially in the case marginalized groups?

An APACrit-informed public health ethics approaches public health discourses as sites that, through underlying ethical arguments and the production of race-nation-gender formations, advance particular stances on social justice and legitimize the discourse’s ideological, political, and economic interests.

Critical Race Studies

Asian American Critical Race Studies

Subsuming APACrit as scholarship that primarily interrogates racial formations in legal discourses, Asian American critical race studies encompasses a broader range of inquiries. In this section, I briefly review approaches to Asian American historiographies, theorizations on “Asian/American” subject formations, and raced and gendered citizenship discourses. These literatures inform and historically contextualize a public health discourse analysis interested in the ways biopolitical subjects are raced, nationed, and gendered, as well as the ideological work done by these formations.

Approaches to Asian American Historiographies. Understanding approaches to Asian American historiographies, both theoretically and methodologically, is integral to analyzing technoscientific race-nation-gender formations in public health discourses. Gary Okihiro outlines three thematic approaches to how Asian Americans are treated as subject matter. Focusing on the intersections of race and gender, Shirley Hune presents multiple historical frameworks by which Asian American women have been constructed historically. Finally, Laura Kang puts forth Asian/American women as a “historiographical *dilemma*” (author’s emphasis) and presents “critical historiography” as integral to the “democratic practice of history.”¹⁴²

Okihiro outlines three approaches to Asian American historiography—*anti-Asianist*, *liberal*, and *Asian Americanist*—and notes how they are neither mutually exclusive nor temporally distinctive. The shaping of Asian American historiography began during the latter half of the nineteenth century when American public discourse focused on Asian migration to the United States and on America’s political and economic

visions for the Pacific.¹⁴³ Framed problematically as the “yellow peril” and “Oriental problem,” Asians were represented as threats both from abroad and domestically for white Americans.¹⁴⁴ He ascribes this first approach to *anti-Asianist* writings which span from the nineteenth century to the present day. The anti-Asianist stance is directed to white Americans and positions the “American self in opposition to the Asian other.”¹⁴⁵ Asia and Asian migrants are posed as threats to the United States. Separation, exclusion, and expulsion are advocated.¹⁴⁶

The second approach—the *liberal* theme—is reactive to the anti-Asianist approach.¹⁴⁷ Liberals do not stray from the immigration and assimilation paradigm that frames the immigration experiences of Europeans and Asians without distinction.¹⁴⁸ To obscure such a distinction overlooks the specific processes of inclusion and exclusion Asian immigrants faced in (not) becoming Americans.¹⁴⁹ Liberals depict Asians as silent victims of anti-Asianist attacks.¹⁵⁰ Though they operate with “good” intentions—meaning they desire to deflect anti-Asianist attacks on Asians and to support pro-Asian policies—liberals often fail to consult the voices and perspectives of Asians in America and merely battle anti-Asianists for influence in the same arena for the same audience.¹⁵¹ Liberal texts typically, and especially during the 1970s and 1980s, reject anti-Asianist accusations by celebrating Asian American contributions to mainstream American society, often by narrating immigrant and minority success stories that pander to the mainstream American assimilationist mentality.

Finally, the *Asian Americanist* approach centers the experiences and perspectives of Asian Americans as legitimate subject matter distinct from the problems framed by anti-Asianists and maintained by liberals. This approach centers Asian Americans as

subject matter and authors and as the primary audience. This approach strives to build a sense of collective history and community by connecting scholarship to community empowerment, by centering histories and experiences of those other than Japanese and Chinese Americans, by focusing on community-specific issues of economic stratification, and by contextualizing their work within a global context.¹⁵² Asian Americanists have expanded the field of inquiry, such as developing gender and class analyses.¹⁵³ Most significantly, Okihiro credits Asian Americanists for beginning “to engage in conversations beyond the racialized group in recognition of the complicities of race with gender, sexuality, class, and nation” and to “complicate, with an eye toward eradicating the dualisms and hierarchies of the U.S. social formation.”¹⁵⁴

While Okihiro provides some mention of gender and women within his Asian Americanist framework, Shirley Hune focuses specifically on the historicization of Asian American women. She provides a brief discussion of common historiographical approaches. First, *making women invisible* omits APA women from the telling of history and focuses solely on the immigration, labor and politics of men and not women, as examples.¹⁵⁵ Second, *discovering women* focuses on the exceptional, anomalous or problematic APA woman within a male-centered history. Only certain limited categories of women, such as picture brides and garment workers, are highlighted. Third, *marginalizing women* includes the experiences of APA women, yet treats them as insignificant. Fourth, while APA women can be centered, they are often still framed within traditional parameters. In other words, the male lens or the white feminist lens values certain aspects of APA women’s lives and devalues others. *Centering women as objects of history* focuses on APA women as victims of oppression. On the other hand,

centering women as active subjects of history views APA women as historical agents of change. She explains:

Asian/Pacific Islander American women are viewed as active participants in history and agents of social change, negotiating complex structures of power...women's lives are dynamic, complicated, and multifaceted. Their contributions to family, community, and society; their social and cultural formations and activities; and the simultaneity of their subordination and resistance to multiple forms of oppression...are acknowledged.¹⁵⁶

Finally, *engendering women* is a new area of research with a significant limitation. This approach views APA women's history as gendered processes. This framework's strength interrogates "changing gender roles and ideologies," "constructions of femininity and masculinity," and highlights both women's and men's lives as gendered. Hune cites this approach's major limitation as the paucity of historical evidence of APA women's and men's lives, consequently limiting gender analyses.¹⁵⁷

While Hune briefly mentions the lack of historical evidence as a limitation, Laura Kang exposes this limitation as evidence of historiography's foundational instability. She raises the question of how Asian American women's history can possibly be written when so little exists about them in archives and when Asian American women are seemingly so absent in history. She reviews the five predominant historiographical approaches to explaining gender imbalances in early Chinese immigration: (1) the sojourner theory, (2) the assumption that the native country's patriarchal culture prevented women from emigrating, (3) low wages and job discrimination made settlement and establishment of families difficult, (4) the U.S. government's restriction on Asian American women's immigration, and (5) labor recruiting and immigration exclusions.¹⁵⁸ She finds the existence of these different interpretative strands indicative of the "[impossible] search for any single, definitive account or theoretical model."¹⁵⁹ In

other words, Asian American women pose a dilemma or crisis in historiography. As objects of study, they have been marginalized in Asian American history, immigration history, and women's history.¹⁶⁰ She provocatively suggests:

I would like to underscore how the realities of the present undertaking of Asian/American women's historical representation force an acknowledgement of certain unknowabilities, and that doing so is not undemocratic. Beyond decrying how the archives can never simply speak for these women, the task of a *critical historiography* is to foreground the *limits* of such documents as also historically significant.¹⁶¹

These approaches to historiography presented by Okiihiro, Hune, and Kang do not necessarily agree with each other and, at times, conflict; however, they are useful for contextualizing scholarly paths of inquiry into meanings of "Asian American."

Theorizations on Asian/American Subject Formations. David Palumbo-Liu introduces "Asian/American" as an analytic construct that moves beyond the assimilation model towards a complication of the U.S. nation-state.¹⁶² The assimilation model, belonging to the domain of Okiihiro's *liberal* approach, presupposes a stable host nation. "Asian/American," rather than being an identity category, should be considered a formation or representation constituted in multiple sites and deeply connected to how America sees itself as a modern nation, especially in relation to Asia, long considered the "racial frontier."¹⁶³ As an Asian Americanist approach, the concept of "Asian/American" destabilizes America's national identity.

Robert Chang, drawing from Benedict Anderson's work on the "imagined community," suggests "Asian America" as a configuration of community, cultural space and place within and against the nation-form of America.¹⁶⁴ He describes America as a nation-form that exists as an idea and in the imagination.¹⁶⁵ The idea of America—its cultural identity and its sovereignty—is constantly threatened by enemies within and

outside the nation's borders.¹⁶⁶ As a result, control and regulation of borders is approached as a national security issue. The nation's identity crisis constructs what is "Asian American" and alternately constructs what is "truly" American.¹⁶⁷

David Leiwei Li introduces an Asian American genealogy of "American Orientalism" to frame formations of the "Asian American abject or unviable subject."¹⁶⁸ This genealogy is delineated by modes of production, forms of political culture, and figures of representation. He puts forth two periods: period I, "Oriental alienation" spans from 1854-1943/1965; and period II, "Asian abjection" spans from 1943/1965-present.¹⁶⁹ During "Oriental alienation," monopoly capitalism reigned as the mode of production, the political culture was one of old orientalism (in the forms of nationalism and imperialism), and the figure of representation was the *Oriental*.¹⁷⁰ During period II, late/transnational capitalism replaced monopoly capitalism, neo-orientalism (in the forms of neoconservatism and neocolonialism) replaced old orientalism, and the "Oriental" was replaced by the "Asian American."¹⁷¹ The shift in representation from "Oriental" to "Asian American" is marked by a change in legal status. The "Oriental" during period I was legally constructed through immigration and naturalization exclusions as an "othered" object of prohibition.¹⁷² Li states that "...the Oriental personified the historical tension between America's universalist promise of democratic consent and its race-, gender-, and culture-specific practice of citizenship."¹⁷³ From period I to II, "Orientals" were accorded legal citizenship status and became legal subjects of the state. However, though "Asian Americans" abstractly became equal and full citizens, they certainly have not come to represent the nation's identity.¹⁷⁴ The Asian American "abject" occupies a contradictory location where Asian Americans are legally included as citizens yet not

seen as competent to be fully American. In other words, they are “formal nationals and cultural aliens.”¹⁷⁵ He cites mass media and public education as regulating the representation of Asian Americans as alien and foreign.¹⁷⁶

Central concerns in Asian American studies revolve around issues of representation, subjectivity, and literary and legal discourse. Kandice Chuh examines U.S. legal discourse and Asian American literatures as theoretical texts in the study of Asian American subject formation.¹⁷⁷ She proposes “subjectlessness” as a conceptual tool in a move towards strategic anti-essentialism. “Asian American” is not a positivist identity but a term of criticism. By accepting Asian American studies as subjectless, Asian Americanists and other scholars can move beyond the debilitating paradigm of what is and is not “Asian American” as a subject/object. This is a move to focus less on differences as the end-all of political discourse and more on Foucault’s “configurations of power and knowledge” which construct meanings of the Asian American subject/object as raced, gendered, sexualized, classed and nationed.¹⁷⁸

Racialized and Gendered Citizenship Discourses. Leti Volpp engages four distinct discourses of citizenship and demonstrates their insufficiencies through the critical lens of “Asian American racialization.” Alternately, Laura Kang conducts a race and gender analyses of citizenship discourses through a theorization of “Asian American women” as legal citizens. Considering the subjectivity of Asian American women, Lisa Lowe theorizes Asian American culture as an alternative site for the embodiment of an alternative citizenship.

While Volpp’s essay analyzes citizenship discourses through a racial and largely genderless (though presumably unspoken universal male referent) lens, Laura Kang

theorizes racialized and gendered citizenships through the “genealogy of ‘Asian American women.’”¹⁷⁹ She engages citizenship as legal status and demonstrates its insufficiencies when examined through the intersectional lenses of race and gender. She also shows how traditional citizenship discourses of legal status and political rights fail to account for the incoherency of “Asian American women” as citizens. She structures her argument by reviewing citizenship and naturalization measures throughout U.S. legal and political history. Her analysis of race and citizenship laws cites many of the same legislations as Volpp’s piece; however, she delves more extensively into how the 1922 Cable Act and its 1930 amendment created a “clearly racialized division *among* American women” and “denaturalized” the U.S. born Chinese woman from American citizenry.¹⁸⁰ Through the course of trying to “(re)narrate Asian American women as an integral definitional other to a normative, legal ‘American’ citizenship,” Kang became aware of the genealogy of “Asian American women.”¹⁸¹ “Asian American women” as objects of study are not already formed entities; they are shaped and produced.

Lisa Lowe expands upon Volpp’s discourses of *political activity* and *identity/collectivity*. She dispels liberal notions of abstract citizenship as inclusive of Asian American men and women by providing a history of immigration exclusion acts from the mid-nineteenth century to the increasing transnational gendered labor of the present day. Culture is significant:

Citizens inhabit the political space of the nation, a space that is, at once, juridically legislated, territorially situated, and culturally embodied. Although the law is perhaps the discourse that most literally governs citizenship, U.S. national culture—the collectively forged images, histories, and narratives that place, displace, and replace individuals in relation to the national polity—powerfully shapes who the citizenry is, where they dwell, what they remember, and what they forget.¹⁸²

American national culture forms subjects into citizens and does not account for the histories and experiences of Asian Americans and transnational Asian immigrant workers. However, marginalized groups, those barred from national culture, produce alternative cultural sites to negotiate their own sense of national identities and to effect social change.

Critical race scholarship on racialized and gendered citizenship provides historical, political and cultural contextualization for a SARS discourse analysis interested in the “Asian/American woman” as a race-nation-gender formation.

Media Framing: Disease, Science, and Policies

Media frame diseases. As observed by Lester Friedman, the institutions of media and medicine are involved in a collaborative professional relationship. Science and health institutions actively court the media spotlight to advance their own agendas. *New England Journal of Medicine* and *Journal of the American Medical Association* hold prepublication press conferences to generate publicity for upcoming articles and to address the general public as an audience broader than scholarly journal readers. At the same time, research articles that are mentioned in popular press, compared to those not mentioned, are cited more often in other scholarly publications.¹⁸³

Scholarship interested in the framing of disease in media generally focus on particular ailments and narrow data sources to particular types of publications. For example, Terra Ziporyn conducts a qualitative analysis of popular American magazine articles on diphtheria, typhoid fever, and syphilis published between 1870-1920. Media covered ailments in accordance to shifts in disease theories and proximate historical

events. Diseases are framed as moral, social, and medical issues, with media coverage emphasizing one perspective over the other depending upon its intended mission for the audience.¹⁸⁴

In the first media framing analysis of only one disease, influenza, over an extensive period of time,¹⁸⁵ Deborah Blakely examines newspaper and magazine coverage of the Spanish influenza pandemic of 1918, the Asian flu pandemic of 1957, and the Hong Kong flu pandemic of 1968. Janice Hume also examines magazine coverage of the 1918 epidemic with an interest in American magazine portrayals of public anxiety.¹⁸⁶ Blakely finds the framing of pandemics changes over time, in part, due to public health policy frames reflective of the dominant public health policies of the time.

She finds that media coverage of the 1918 pandemic narrates a theme of “intense anxiety”¹⁸⁷ and utilizes war metaphors carried over from World War I press coverage. In contrast, Hume observes that magazines did not significantly cover the epidemic. Journalists found it difficult to craft a narrative, without a definable enemy or figure of male heroism, which would fit the public’s post-war psychic needs.¹⁸⁸ During the 1957 pandemic, narrative frames shift in accordance to public health’s ability to control the pandemic. A theme of *scientific optimism*—the hope of disease control through public health and science’s use of vaccines and antibiotics—emerges. However, when influenza continued to spread and vaccines were not readily available, this optimism in science shifts to a blame of public health officials for failing at vaccine production. To provide public health officials reprieve from the glaring media spotlight and time to focus on vaccine production, the narrative frame shifts blame to medical institutions as sites where

antibiotic resistant bacteria may have arisen. When the pandemic finally eases and enough vaccines are produced, the narrative frame returns to optimism and faith in science's curative abilities. Finally, during the 1968 pandemic, media coverage appoints blame, not to foreign entities, but to nature as reason for science's inability to control the pandemic. Influenza is deemed a natural occurrence that is met with complacency—the virus is an “unwelcome visitor that one just simply had to put up with”¹⁸⁹—and a focus on research to aid in prevention.

While the framing of influenza pandemics changes over time, several themes and narrative structures hold across cases. First, blame and responsibility are assigned. Media coverage attributes blame to government and health officials, medical institutions, nature, and entities raced as foreign.¹⁹⁰ In particular, the Far East, Communist China, and Chinese citizens are blamed for the Asian Flu Pandemic of 1957; it is thought that the “virus could have been bred in unnatural conditions produced by the many refugees spilling out of China...”¹⁹¹ This “racial blame or profiling” derives from Cold War anti-Communist sentiments.¹⁹² Second, war metaphors persist as key elements of narrative discourses that socially construct pandemics as battles and problems in need of scientific interventions. Third, science is posed as a solution to or, at least, as useful in disease eradication, control, and prevention. Finally, media coverage of pandemics partially constitutes the framing of public health policies.¹⁹³

This literature addresses the relationship between the science and mainstream media arenas and the ways in which media frame disease, particularly with regards to the assignment of blame and responsibility during the Asian Flu Pandemic of 1957, as well as in relation to historical context and public health policy frames. This is pertinent to

this study's discourse analysis which examines the science arena's and mainstream news media's SARS coverage and U.S. Congressional hearings on SARS as a global and national public health emergency.

Metaphors and Analogies

Metaphors and analogies are analytical concepts in framing analysis and are conceptual tools for making sense of the world. With reference to framing analysis, Gamson theorizes metaphors as symbolic devices that signify the presence of frames, and Pan and Kosicki classify metaphors as rhetorical structural framing devices that organize themes in news stories. Susan Sontag observes that ways of understanding the world, including science and disease, utilizes metaphors.¹⁹⁴ Paul Chilton and George Lakoff consider metaphors integral to the conceptualization of self, human action, and the world.¹⁹⁵ A critical theory of scientific metaphor, advanced by Nancy Leys Stepan, explores the cultural sources of scientific metaphor, how these analogies influence scientific reasoning, and their consequences along structures of race and gender.¹⁹⁶ For example, she demonstrates how the biological inferiority of women and "Negroes" is produced through scientific analogy that uses each to demonstrate the other's inferiority. Donna Haraway considers metaphors useful tools for conceptualizing the material-semiotic¹⁹⁷ world, and James Bono describes human interactions as "embodied metaphors-in-action."¹⁹⁸ In this section, I briefly present framing analysis scholarship that focus on metaphors and analogies of science, disease, and foreign policy.

Dorothy Nelkin notes predominant metaphors and imagery in news media about science and scientists: (1) the language of alchemy frames scientists as magicians privy to

secret knowledge; (2) warfare imagery frames scientists as fighters; and (3) frontier imagery showcases scientists as warriors on the frontiers of technology, wielding science as weaponry in combat against disease; and, (4) religious metaphors frame scientific misdeeds as sins. These metaphors produce scientists as authorities and sources of truth, and science as

...a solution for intractable dilemmas, a means of certainty in an uncertain world, a source of legitimacy, an institution we can trust. [Metaphors] have been used to mobilize consensus and rebuild comfortable images of progress and national leadership...¹⁹⁹

Metaphors frame scientists and science as beyond reproach and criticism, as media rarely critique works of science as it critiques works of literature and art.²⁰⁰

Disease and illness are framed by military metaphors with several characteristics: (1) the human body's immunological defenses are analogized to military defenses at the societal level; (2) alien enemy diseases invade society; (3) the attempt to reduce mortality from invading diseases is warfare; (4) disease-afflicted patients are blameworthy and at-fault, even if they are considered victims. The creditability of military metaphors is due to the advent of cellular pathology in which microorganisms, seen as foreign invaders causing disease, are made visible through the use of microscopes.²⁰¹

Chilton and Lakoff's study of foreign policy discourse highlights metaphors as organizing conceptualizations of foreign policy. They outline two key metaphors of states—*state-as-person* and *state-as-container*. First, the *state-as-person* metaphor produces a national personality, such as an "isolated individual, pitted against all others" or a "socially cooperative and responsible autonomous individual." In issues of law and order, the U.S., aligned with ally states, is often depicted as the "world's policeman." The *body-politic* metaphor produces a nation as healthy or diseased. If the nation is a

person, then it has a body, and this body can be healthy or diseased and infectious. In addition, states as persons engage in binary competitions, such as an arms race. The second metaphor, state-as-container, emphasizes state boundaries. It frames understandings of national security. The state as container metaphor is also expressed in terms of the state as house or home, such as “America’s backyard.” By making metaphors visible in foreign policy discourse, scholars can rearticulate them in ways that highlight what metaphors hide and, in turn, produce reconceptualizations of foreign policy discourse.²⁰²

Literature on metaphors and analogies is especially pertinent to this study’s SARS discourse analysis that also examines science and policy texts and finds similar uses of metaphors and analogies.

Feminist Critiques of Science, Technology and Medicine

Feminist critiques of science, technology and medicine address the political economies of scientific knowledge production and the ways in which these productions impact ways of knowing the self, others, and the world. Such examinations destabilize notions of positivism and objectivity and provide theorizations of metaphors and signification, biopower, biopolitical subjectivity, technoscience and cyborgs, biomedicalization, and risk politics. Such analyses are motivated by feminist impulses, such as feminist investments in questioning how and why knowledges are composed, and are focused on cultural artifacts as gendered and political processes, technologies and knowledges. This area of inquiry informs theorizations of race-nation-gender formations

in public health discourses as biopolitical subjects shaped by scientific knowledges, technologies, cultural artifacts and representations, and the political economy.

Foucault outlines a shift from the “classical” period to a modern one of the nineteenth century. In the “classical” period, sovereign power exercised its ultimate power in the right to kill. Wars were fought to defend the sovereign ruler. In shifting to the modern period, wars were no longer fought to defend the ruler but the entire population. In an atomic age, the biological continuance of entire populations is at stake. State power shifted from incurring death to sustaining lives in particular and multiple ways. And, in the case of building a new nation, the sustenance of a population would be vital. He writes, “One might say that the ancient right to *take* life or *let* live was replaced by a power to *foster* life or *disallow* it to the point of death.” It is in the endurance of life that the state is invested. He continues, “The old power of death that symbolized sovereign power was now carefully supplanted by the administration of bodies and the calculated management of life.” This governance of bodies comprises the concept of “bio-power.” Bio-power governs, as “bi-polar technology,” the “disciplines of the body” and the “regulations of the population.”²⁰³

Carlos Novas and Nikolas Rose consider the governance of biological bodies as not only uni-directional from state to body. Rather, it involves self-governance. In studying genetic counseling, they theorize “technologies of genetic selfhood” as “heterogeneous assemblages” of multiple knowledges that affect practices of self-government and that “re-shape the ways in which we are governed, and the ways in which we govern ourselves.” They focus on the concept of self-governance and strategic choices as a way to revive subjectivity in resistance to the subject’s own genetics that

pose risks to self.²⁰⁴ Susan Bordo addresses governance and self-governance as the “two Foucaults”—the first is a modern, structural perspective that centers the “‘grip’ of systematic power on the body” and the second perspective is more postmodern and centers “the creative ‘powers’ of bodies to *resist* that grip.”²⁰⁵ “Biopolitical subjects” refer to these self-governed biological bodies and populations.

Technoscience, Biomedicalization, and Feminist Ontology

Feminist technoscience approaches lend conceptual tools—such as biopower, biomedicalization, biopolitical subject, technoscience, risk politics, technoscientific identities and subjectivities—that allow for ontological examinations in public health discourse analyses. Donna Haraway defines *technoscience* as a “time-space modality,” tied to late-twentieth-century transnational capitalism—that “implodes” modernist binaries of nature and culture, subjects and objects, actors and actants, natural and artificial.²⁰⁶ In technoscientific worlds, human and non-human relationships and interactions between the social, natural and technical are “congealed into property” through material-semiotic processes.²⁰⁷ In terms of *feminist technoscience*, Haraway calls for science studies to draw from the works of feminist, multicultural and oppositional theories. “Figurations,” such as cyborgs, are sites that embody, constitute and map technoscientific “worlds of practice,” power, and knowledge.²⁰⁸ She defines the *cyborg*:

By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs. The cyborg is our ontology; it gives us our politics...In the traditions of ‘Western’ science and politics...the relation between organism and machine has been border war.²⁰⁹

She presents the cyborg located within technobiopower as analogous to Foucault's *biopolitical subject* located within *biopower*.

Adele Clarke et al, in "Biomedicalization: Theorizing Technoscientific Transformations of Health, Illness, and U.S. Biomedicine," detail a shift from medicalization to biomedicalization and explicate five key processes of biomedicalization. Medicalization entails the framing of conditions into medical problems. Biomedicalization "describes the increasingly complex, multisided, multidirectional processes of medicalization, both extended and reconstituted through the new social forms of highly technoscientific biomedicine."²¹⁰ The five key processes that constitute and are produced by biomedicalization are: (1) the "political and economic reconstitution of biomedicine," as signified by U.S. Biomedical TechnoService Complex, Inc.; (2) the focus on health itself in addition to illness and disease, the shift in viewing health as a moral obligation, the elaboration of risk, and the proliferation of surveillance biomedicines; (3) biomedicine as increasingly scientific and technological; (4) "transformations in how biomedical knowledges are produced, distributed, and consumed, and in medical information management"; and (5) "transformation of bodies to include new properties and the production of new individual and collective technoscientific identities."²¹¹

In describing the fifth key process, Clarke et al address the shift from control over the body to the regulation of the body from the "inside out" through the transformations of body, identities and subjectivities.²¹² Biomedical technoscience engages in identity formation in four ways: (1) the attainment of desired social identities that were once out of reach, (2) transformation of self and subjectivities with respect to what is means to be

a responsible healthy citizen, (3) the creation of new biomedical identity categories such as “low risk” and “high risk”, and (4) the ability to perform new identities through “new technoscientific modes of interaction.”²¹³ As a critical lens, biomedicalization allows for the mapping of momentary spaces of negotiation and the possibilities of democratic interventions.²¹⁴

In “The Politics of Life Itself,” Rose argues that contemporary biopolitics takes a form different from Foucault’s. With respect to *risk politics*, he outlines the contemporary state’s dual functions: (1) continue providing for the public’s health in terms of promoting healthy habitats and (2) shift health promoting activities from the state to individuals. A new “will to health” emerges in which an individual exercises freedoms and responsibilities.²¹⁵ He states:

It is no longer a question of seeking to classify, identify, and eliminate or constrain those individuals bearing a defective constitution, or to promote the reproduction of those whose biological characteristics are most desirable, in the name of the overall fitness of the population, nation or race. Rather, it consists in a variety of strategies that try to identify, treat, manage or administer those individuals, groups or localities where risk is seen to be high.

Rose’s risk politics, “government of risk,” and “will to health,” and Novas and Rose’s “technologies of genetic selfhood,” are in conversation with Clarke et al’s key processes of biomedicalization.

The first and fourth ways biomedicine engages in technoscientific identity formation is related to Charis Thompson’s use “ontological choreography.” The “ontological branch of feminist science studies”²¹⁶ is interested in “...how assemblages of people and things together to support individual identities, shape society and politics, and even determine what counts as nature.”²¹⁷ The “studying down” approach to feminist studies of reproduction produces a total and permanent objectification of women through

technology that denies agency and personhood. In a post-structural shift, feminist studies of reproduction are more concerned with the “complexities of techoscientific practices and stratification.”²¹⁸ Thompson develops the concept of “ontological choreography” which is the “coordinated action of many ontologically heterogeneous things and people in the service of a long-range self.”²¹⁹ Choreographed moments include the pelvic exam, ultrasound procedure, and diagnostic surgery. It is in choreographed moments of objectification that women have agency.

Examining objectification, subjectivity and agency through this “ontological choreography” is similar to Bruno Latour’s “body talk” and Victoria Pitts’s idea of the “making of bodies-technologies.” Latour poses “body talk” as a movement away from directly theorizing the body towards theorizing the body as it is engaged in accounts of what the body does.²²⁰ Discussing the body in terms of “propositions” and “articulations” is more appropriate than speaking about the body as matters of fact. The body as an a priori object never exists. The body is “an interface that becomes more and more describable as it learns to be affected by more and more elements.”²²¹ It is only through articulations, both of language and of materials, into propositions that we can speak of the body—or “body talk.” Somewhat similarly, Pitt advocates for a shift in feminist technoscience analysis beyond ““what is this body-subject saying?”” towards ““what and how does this body *do*”” (author’s emphasis).²²² She suggests considering “body projects as the *making of bodies-technologies* that are positioned within history and political economy,” as well as paying attention to “the *means* of practices as much as what practices mean or are intended to mean.”²²³

The production, distribution, and consumption of biomedical knowledges have potential regulation and governance implications. Sara Shostak has broad concerns with regards to the impact of biomedical knowledge production at the molecular level on environmental health regulation and governance. Environmental health sciences focus on the ambient environment and on social, political and economic risk factors. If the molecularization of environmental health science fulfills its promise to determine which populations are susceptible to environmental exposures, then regulation may shift from the ambient environment and socio-politico-economic factors to genetic factors. Environmental justice advocates find this future appalling, as it would direct blame and responsibility onto already marginalized populations and assign risk to race and not to social structural factors.²²⁴

Technoscientific Visualities, Metaphors, and Significations

Visual technologies and their images are part of Clarke et al's biomedicalization processes, specifically the production and distribution of biomedical knowledge and the transformation of bodies, identities, and subjectivities. Kelly Joyce studies the role of magnetic resonance imaging (MRI) as, to use Latour's terms, propositions and articulations of the body. She presents three tropes present in how MRI images are used the media, popular science textbooks, and in health-care settings. First, MRI images are considered interchangeable with the physical body; they are accurate reflections of the body. Second, MRI images are a superior, developed and authoritative mode of knowing the body. This is due to the belief that what is mechanized and machinated, what involves little human interaction, is more neutral and objective. Finally, the third trope sees technology as an agent. Non-human entities are ascribed agency in order to do work

that advances particular positions.²²⁵ Similarly, Joseph Dumit's examines brain imaging scans as visual technologies that institutions, experts, and people use to make meaning and advance certain causes. Mental health advocates and families of those with mental health issues use brain imaging scans to remove the stigma of mental disease. If the "problem" is physically located on a scan, then the individual is sick and not responsible.²²⁶

Emily Martin's "The Egg and the Sperm" is considered a classic feminist science essay. Visual representations of the egg and sperm, as well as the popular and scientific accounts of reproductive biology that they accompany, are framed by gendered metaphors and analogies. These microscopic cellular entities, through gendered imagery, are imbued with consciousness and personhood in ways that have possible ramifications for reproductive rights.²²⁷ As reproductive biology is produced through a frame of gendered metaphors and visual images, the AIDS epidemic is an "epidemic of signification," according to Paula Treichler. The AIDS epidemic is not only biological and biomedical but also cultural and linguistic. Gendered and sexualized representations of the "AIDS patient" are produced through metaphors, images, and linguistic constructs—devices that carry meanings or significations.²²⁸ Metaphors travel between science and culture; "Idioms and metaphors...are produced in part by cultural uses and travel back into laboratories. It is out of this busy intersection of technical, social, and cultural flows that scientists attempt to stabilize and conduct their experiments, and it is back into the intersection that their results must go."²²⁹ Objects of scientific knowledge, biomedical knowledge, and biopolitical subjects and identities, are informed and structured by language and culture; they are material-semiotic formations.

Risk Studies

Major Theoretical Approaches to Risk Scholarship

Lupton traces changes in concepts of “risk” and “uncertainty” from pre-modernity to post-modernity. In the middle ages, “risk” was seen as an event of nature, such as an epidemic or a storm, and devoid of human responsibility and fault.²³⁰ Beginning in seventeenth century Enlightenment and continuing into the eighteenth and nineteenth centuries, the modernist concept involved statistical calculations of risk in not only natural events but also in human actions and in society.²³¹ This modernist technical notion of risk relies upon “probability estimates of an event [that] are able to be known or knowable.”²³² Here within rests a distinction between “risk” and “uncertainty.” As opposed to risk which can be determined through probability estimates, “uncertainty” involves probabilities which are unknown or inestimable.²³³ By the end of the twentieth century, such distinctions between “risk” and “uncertainty” became increasingly blurred: “Risk and uncertainty tend to be treated as conceptually the same thing: for example, the term ‘risk’ is often used to denote a phenomenon that has the potential to deliver substantial harm, whether or not the probability of this harm eventuating is estimable.”²³⁴

In this postmodern era, “risk” is used to represent “focal points of feelings of fear, anxiety and uncertainty.”²³⁵ Lupton continues: “the identification of ‘risks’ takes place in the specific socio-cultural and historical contexts in which we are located...to call something a ‘risk’ is to recognize its importance to our subjectivity and wellbeing.”²³⁶ In addition, she states:

Those phenomena that we single out and identify as ‘risks’, therefore, have an important ontological status in or understanding of selfhood and the social and material worlds. Societies—and within them, social institutions, social groups and individuals—need this selection process as part of their continued operation. Risk

selection, and the activities associated with the management of risk, are central to ordering, function and individual and cultural identity.²³⁷

This study approaches constructions of risk and uncertainty as significant to how public health discourses produce biopolitical subjects in raced, gendered and nationed formations.

She characterizes the major theoretical approaches to risk scholarship from the late 1980s to 1990s: 1) cultural/symbolic, 2) risk society, and 3) governmentality. First, the cultural/symbolic approach, spearheaded by Mary Douglas, understands "...risk as acting primarily as a locus of blame, in which risky groups or institutions are singled out as dangerous. A 'risky' Other poses a threat to the integrity of one's own physical body or to the symbolic body of the community or society to which one belongs."²³⁸ Beck and Giddens theorize a risk society that foregrounds government, industry and science as the main producers of risk.²³⁹ Finally, governmentality risk theorists draw from Foucault's work on discursive constructions and stress "self-management of risk and the increasing privatization of risk." This study considers the socio-cultural construction of risk crucial to a public health discourse that articulates utilitarian arguments, as well as the personal choice and responsibility of biopolitical subjects to practice self-prevention and bodily risk containment. Scholarship rarely converges theoretical approaches in examinations of risk phenomena, and feminist theories and sociology of the body infrequently inform understandings of risk, gender, biopolitical subjectivity, and embodiment.²⁴⁰ This study draws from these approaches to risk and aims to inform these theoretical approaches with findings from the SARS discourse analysis.

A grounded theory approach emphasizes the dynamic process of theory generation that is grounded in the systematic analysis of empirical data, and continuous

verification and elaboration of concepts and relationships between concepts²⁴¹ In that this study takes a critical race, feminist technoscience approach to SARS discourse analysis, it treads into relatively under-explored territories of research. A grounded theory approach best allows for the development of new findings and theory generation, that is less encumbered by existing frameworks that may or may not appropriately conceptualize the socio-cultural phenomena of interest.

Conclusion

This study elaborates upon and seeks to synthesize conversations in public health ethics and social inequalities in public health, critical race theory and critical race studies, media framing of disease, feminist science studies, and risk studies. An APACrit-informed public health ethics approaches public health discourses as sites that, through underlying ethical arguments and socio-cultural constructions of risk, produce race-nation-gender formations that function to legitimize the discourse's ideological, political, and economic interests. It allows for theorizations of public health advocacy ethics and social justice that are historically contextualized. Perspectives on social inequalities in public health, along with scholarship on how media frame diseases, contextualize the significance and relevance of a public health discourse analysis interested in particular biopolitical subjects. Critical race studies scholarship informs theorizations of Asian/American subject formations within literature, law, and immigration histories. This study expands the object of inquiry to public health discourses. Feminist science studies are predominately focused on gendered processes. Formations of race and nation are engaged, though not as prominently as gender. Few interrogations specifically

address formations of “Asian/American” through a feminist technoscience lens. This study approaches public health discourses from a feminist science perspective informed by critical race studies, public health ethics and social inequalities in public health.

Chapter 3: Methodology

Overview of Methods

This study is a qualitative, interdisciplinary study of the technoscientific formations of race, nation and gender in public health discourses, particularly SARS discourses. It uses four types of data sources: government public health reports and articles, biomedical journal articles, mainstream news media articles, and Congressional publications. I approach the objects of analyses—whether written texts, visual images, or Congressional Hearing transcripts—as Foucauldian discourses. This study’s methodology is a discourse analysis that draws from narrative discourse analysis, visual discourse analysis, and framing analysis. This study adheres to a post-structuralist tradition of feminist studies that analyzes social phenomena as cultural productions that function as sites where ideology, politics and economics (re)produce systems of power and inequality along intersecting dimensions of race, nation, gender, class, and sexuality. This study is interested in the under-examined social phenomena of public health urgencies as exemplary of such cultural productions.

Data Sources

Riffe et al emphasize identifying the *universe*, *population* and *sampling frame* when designing a study. The *universe* consists of “all possible units of content being considered.”²⁴² The *universe* of possible content units, that are relevant to my central research question, includes all elements and structures of discourse that constitute meanings of SARS. Obviously, such a universe is both innumerable and unmanageable.

The *population* is “composed of all the sampling units from which a sample is selected,” and the *sampling frame* is “the actual list of units from which a sample is selected.”²⁴³

This study’s *population* is the universe narrowed to four different social worlds—government-science, non-government-science, mainstream news media, and government-public policy—and all articles and images relevant to SARS in specific representative publications for each social world within a restricted time period. The *sampling frames* for “government-science,” “non-government-science” and “mainstream news media,” excluding newspapers, are the same as their populations.²⁴⁴ For “government-public policy,” the sampling frame consists of full-text transcripts and documents available via LexisNexis Congressional Publications and Catalog of U.S. Government Publication.

Figure 3.1 represents data sources by social world.

Figure 3.1: Data Sources by Social World

Social World	Data Source
Government-Science	Mortality and Morbidity Weekly Report (MMWR) Emerging Infectious Diseases (EID)
Non-Government-Science	Journal of the American Medical Association (JAMA) New England Journal of Medicine (NEJM) Science Magazine (Science)
Mainstream News Media	Time Newsweek U.S. News & World Report (UNWR) New York Times (NYT) Los Angeles Times (LAT)
Government-Public Policy	Congressional Publications

Purposive sampling guides the delineation of this study’s population. Selecting representative data sources for each social world is based upon specific research justifications— particularly journal impact factors, circulation numbers, and reputation.

I chose a six-month time frame—March 1, 2003 to August 31, 2003. World Health Organization refers to the SARS epidemic as occurring November 2002 to June 2003.²⁴⁵ Although the first case of severe atypical pneumonia, what came to be termed

SARS, was identified in Guangdong, China on November 16, 2002, it was not until March 12, 2003 when the World Health Organization (WHO) issued a global alert regarding severe atypical pneumonia cases that an emerging infectious disease outbreak became announced to the public. WHO identifies July 5, 2003 as the last end date for periods of local transmission. The end date for periods of local SARS transmission is 20 days after the last identified probable SARS case died or was isolated.²⁴⁶ Based upon these dates in the SARS timeline, I consider March 1, 2003 to August 31, 2003 an appropriate six-month time frame from which to sample.

I draw from several public-health and biomedical related sources of data: (1) government public health publications, (2) non-government public health and biomedical publications, (3) mainstream news media, and (4) Congressional publications. The sampling units consist of: (1) written text in publications, (2) visual images (photographs, illustrations, graphs) in publications, and (3) transcripts of Congressional hearings and prepared witness testimonies.

Social World—Government-Science

Centers for Disease Control and Prevention (CDC) is the nation's "primary Federal agency for conducting and supporting public health activities in the United States."²⁴⁷ Part of the U.S. Department of Health and Human Services, CDC's central focus is "to protect the health of the people."²⁴⁸ During the SARS epidemic, the CDC was the primary source for government public health and biomedical information.

I sampled two CDC publications, *Morbidity and Mortality Weekly Report (MMWR)* and *Emerging Infectious Disease Journal (EID)*. CDC publishes *Morbidity*

and Mortality Weekly Report in both print and electronic forms. On its website, the CDC describes *MMWR*:

The *MMWR* weekly contains data on specific diseases as reported by state and territorial health departments and reports on infectious and chronic diseases, environmental hazards, natural or human-generated disasters, occupational diseases and injuries, and intentional and unintentional injuries. Also included are reports on topics of international interest and notices of events of interest to the public health community.²⁴⁹

MMWR consists of a series of publications, including its *Weekly Report*, *Recommendations and Reports*, *Surveillance Summaries*, *Supplements*, and *Summary of Notifiable Diseases*.²⁵⁰

Emerging Infectious Disease Journal is a monthly CDC publication. The *Journal* is described as “represent[ing] the scientific communications component of CDC's efforts against the threat of emerging infections”²⁵¹ and works towards two goals: (1) “recognition of new and reemerging infections and understanding of factors involved in disease emergence, prevention, and elimination” and (2) “fast and broad dissemination of reliable information on emerging infectious diseases.”²⁵² Additionally, according to the *2003 Journal Citation Reports Science Edition*, *EID* ranked 4th in terms of journal impact factor within the “Infectious Diseases” subject category.

Social World—Non-Government-Science

Journal of the American Medical Association (JAMA), *New England Journal of Medicine (NEJM)*, and *Science* are data sources for public health and biomedical journals. I searched the *2003 Journal Citation Reports (JCR) Science Edition* for journal rankings by impact factors within subject categories.²⁵³ According to The Thompson Corporation which operates *Journal Citation Reports*, the “journal impact factor is the average number of times articles from the journal published in the past two years have

been cited in the JCR year.”²⁵⁴ Within the “Medicine, General & Internal” subject category, *New England Journal of Medicine* and *Journal of the American Medical Association* rank 1st and 2nd by impact factor, respectively. Within the “Multidisciplinary Sciences” subject category, *Nature* and *Science* rank 1st and 2nd by impact factor, respectively, and publish weekly. I selected *Science*, an American Association for the Advancement of Science (AAAS) publication, as the representative U.S.-based multidisciplinary science data source, as opposed to *Nature*, a British publication.

Social World—Mainstream News Media

Time, *Newsweek*, and *U.S. News and World Report* are the top ranking circulated general news magazines.²⁵⁵ Magazine Publishers of America (MPA) draws from Audit Bureau of Circulation (ABC) information to provide a listing of the top 100 ABC magazines by average paid circulation for 2003.²⁵⁶ *Time* ranks as the 10th most circulated with an average paid circulation of approximately 4.1 million. *Newsweek* ranks as the 17th most circulated with an average paid circulation of approximately 3.1 million. *U.S. News and World Report* as the 35th most circulated with an average paid circulation of approximately 2.0 million.

Of newspapers, *USA Today*, *The Wall Street Journal*, *The New York Times*, *Los Angeles Times*, and *Washington Post* are the top five daily newspapers in the U.S. by paid circulation, respectively.²⁵⁷ I selected *The New York Times* (1.1 million) and *Los Angeles Times* (908,000) as mainstream newspaper data sources. In addition to its status as a top circulated newspaper, *The New York Times* is consistently purposively sampled by scholars due to its elite reputation as a national and international news agenda setter.²⁵⁸ *Los Angeles Times* is also the top-ranked daily newspaper based on the west coast.

Social World—Government-Public Policy

LexisNexis Congressional is considered the most comprehensive electronic database with respect to access to Congressional publications and legislative research.²⁵⁹

Through this database, users can access: committee hearings; committee prints; Congressional Research Service (CRS) reports; House and Senate documents; House and Senate reports; Senate Executive reports; Senate Executive Treaty documents; and legislative histories. I am most interested in Committee hearings. LexisNexis Congressional describes hearings as:

Published hearings are the official record of committee hearings proceedings. Hearings, which are usually open to the public, are held to enable committees to gather opinions and information to help Members make decisions regarding proposed legislation or to help them fulfill their oversight and investigation responsibilities.²⁶⁰

Hearing publications include witness statements, transcripts of question-and-answer sessions, and submitted materials and correspondences for the record.

Data Collection

I identified articles through the use of electronic research databases—primarily EBSCO-Academic Search Premier, EBSCO-Medline, ProQuest, and LexisNexis—accessed through either University of Maryland-College Park’s ResearchPort or Library of Congress’ electronic resources. For several specific data sources, I identified publications through their websites, such as CDC’s *MMWR*, mostly to double-check search results from other research databases.

I collected texts through several avenues. For full-text which excludes visual images, I primarily collected texts through electronic databases. Portable document format (pdf) files were available from either electronic research databases and/or the

publication's e-journal accessed through University of Maryland-College Park's ResearchPort or Towson University's e-journal subscription. Visual images from CDC publications and biomedical journals were collected through either the publication's website or ejournal access to pdf files. I personally collected the visual images (photographs, graphs, illustrations, diagrams) from mainstream news magazines by scanning from hard copies available at the New Carrollton Public Library. Visual images from mainstream newspapers were collected by scanning from microform available at McKeldin Library.

In this section, I describe how relevant articles were identified for each data source:

CDC—Morbidity and Mortality Weekly Report (MMWR): I searched EBSCO Host-Medline using “CDC” in “CA Corporate Author” and “severe acute respiratory syndrome” in “TX All Text.” Search resulted in 29 total results—24 of which were within the six-month time frame, excluding three errata, one duplicate article, and one “notice to readers.”²⁶¹ MMWR articles within time frame range in publication dates from March 21, 2003 to July 25, 2003. Additionally, I searched the CDC website (www.CDC.gov/mmwr). Under advanced search, I searched “severe acute respiratory syndrome” from “030103 to 083103.” This resulted in 29 hits. Results ranged from March 21, 2003 to July 25, 2003. Results from the previous EBSCO Host-Medline search were included in the CDC website search.

CDC—Emerging Infectious Diseases (EID): I searched EBSCO Host-Medline using “Emerging Infectious Diseases” in “JN Journal Title” and “SARS” in “TX All Text.”

Search resulted in 155 total results—only 5 of which were within the six-month time frame.²⁶² EID articles within time frame ranged from June 2003 to August 2003. I also searched EBSCO Host-Medline and EBSCO Host-Academic Search Premier using “Emerging Infectious Diseases” in “SO Source” and “severe acute respiratory syndrome” in “TX All Text.” Search resulted in 438 hits—only 5 of which were within the six-month time frame. EID entirely devoted its February 2004 issue to SARS coverage; however, this is outside the time frame, and articles from this special issue were thus not sampled.

Journal of the American Medical Association (JAMA): I searched EBSCO-Medline and EBSCO-Academic Search Premier using “JAMA” in “SO Source” and “severe acute respiratory syndrome” in “TX All Text.” Search resulted in 89 total results—32 of which were within the time frame. JAMA article publication dates within time frame range from April 9, 2003 to August 27, 2003.

New England Journal of Medicine (NEJM): I searched EBSCO-Medline and EBSCO-Academic Search Premier using “New England Journal of Medicine” in “SO Source” and “severe acute respiratory syndrome” in “TX All Text.” Search resulted in 62 total results—26 of which were within the time frame. *NEJM* articles within time frame range from April 17, 2003 to August 14, 2003. I also conducted an advanced search on *NEJM* website (<http://content.nejm.org>) using “severe acute respiratory syndrome” in “Full Text” and limited by date from: March 2003 to August 2003. Search resulted in 26 hits.

Science: I searched EBSCO-Academic Search Premier using “Science” in “JN Journal” and “severe acute respiratory syndrome” in “TX All Text.” Search resulted in 76 total hits—of which 35 results were within the time-frame. I also searched *Science Magazine* as an e-journal through University of Maryland’s ResearchPort using “severe acute respiratory syndrome” in “words anywhere in the article” between March 2003 and August 2003. This resulted in 39 hits. Article publication dates range from March 21, 2003 to August 22, 2003.

Time: I searched EBSCO-Academic Search Premier using “Time” in “SO Source” and “SARS” in “TX All Text.” Search resulted in 68 hits—20 of which were in the time frame.

Newsweek: I searched EBSCO-Academic Search Premier using “Newsweek” in “SO Source” and “SARS” in “TX All Text.” Search resulted in 47 hits—13 of which were in the time frame.

U.S. News & World Report (UNWR): I searched EBSCO-Academic Search Premier using “U.S. News & World Report” in “SO Source” and SARS” in “TX All Text.” Search resulted in 36 hits—22 of which were in the time frame.

The New York Times (NYT): I searched ProQuest using “The New York Times” in “Publication Title” and “severe acute respiratory syndrome” or “SARS” in “citation and

document text” from March 1, 2003 to August 31, 2003. This search resulted in 861 results. Visual images from *NYT* articles were collected by scanning from microform.

Los Angeles Times (LAT): University of Maryland ResearchPort only provides access to the last two months of the *Los Angeles Times*. In order to identify relevant articles for the selected time period, I had to utilize electronic database resources at Library of Congress. I searched ProQuest using “Los Angeles Times” in “Publication Title” and “severe acute respiratory syndrome” or “SARS” in “citation and document text” from March 1, 2003 to August 31, 2003. This search resulted in 459 hits. Visual images from articles were collected from microform scans.

Congressional Publications: I conducted an Advanced Search in LexisNexis Congressional Publications using “severe acute respiratory syndrome” in “all fields including full text,” restricted by date March 1 2003 to August 31 2003, within: Committee Prints, Hearings, House & Senate Documents, House & Senate Reports, and Legislative Histories. This search resulted in 85 hits. In order to access the full-text for many of these hits, links to other results were provided. Six results lacked full-text access within LexisNexis. Through the Catalog of U.S. Government Publication (CGP) (<http://catalog.gpo.gov/F>), I collected three of these six results that lacked full-text. In total, 131 hits resulted.

Data Sampling

Riffe et al define a sample as “a subset of units from the entire population being studied.”²⁶³ I utilized a variety of sampling techniques depending upon the data source. For data sources with overwhelming numbers of publications, I applied various sampling techniques and used *Research Randomizer*²⁶⁴ for *The New York Times* and *Los Angeles Times*. Figure 3.2 represents the population, sampling frame, and sample by data source.

Data sampling for *NYT*, *LAT*, and Congressional publications involved cluster sampling, stratified sampling, and purposive sampling, respectively.

The New York Times:

Cluster sampling techniques were applied to content units in *The New York Times*.

Krippendorff describes cluster sampling as the “technique of choice when analysts cannot enumerate all units of analysis but find lists of larger groups of such units, or clusters.

Analysts start by listing available clusters, then select among them randomly,

systematically, or stratificationally and bring all units of analysis contained in those

Figure 3.2: Population, Sampling Frame, and Sample Numbers by Data Source.

Data Source	Population*	Sampling Frame*	Sample*
Mortality and Morbidity Weekly (MMWR)	24	24	24
Emerging Infectious Diseases (EID)	5	5	5
Journal of the American Medical Association (JAMA)	32	32	32
New England Journal of Medicine (NEJM)	26	26	26
Science Magazine	35	35	35
Time Magazine	20	20	20
Newsweek Magazine	13	13	13
U.S. News & World Report (UNWR)	22	22	22
Los Angeles Times (LAT)	459	459	129
New York Times (NYT)	861	210	106
Congressional Publications	131**	25**	25**
Total	1628	871	437

*Number of data units represents number of articles or reports.

**As an exception, number of data units for “Congressional Publications/Population” is number of search results. Population units range from a search result consisting of a full-text transcript to a search result consisting of only one witness’ prepared testimony. Sampling frame and sample units consist of 25 search results that comprise a total of 12 Congressional Hearings that fit inclusion and exclusion criteria.

chosen into the analysis.”²⁶⁵ The sampling frame of relevant articles, 861 articles, was overwhelming in size. Subpopulations to which articles belonged were not as easily identifiable as they were in *LAT*. Sections of *NYT* vary by week day: “main news,” “metro section,” “arts and leisure,” “money and business,” “week in review,” “travel,” “magazine,” “book review,” “sports,” “Sunday styles,” “employment advertising,” “real estate,” “automobiles,” “television,” “city (New Jersey, Westchester Weekly, Long Island Weekly, Connecticut Weekly).” These various sections were not consistently labeled across issues. For example, articles in “arts and leisure” may be in Section E in one issue and Section G in the next issue. Due to this inconsistency, I was not able to discern with certainty to which sections belonged each article, as I was able to do with the 459 *LAT* articles, even though I was able to collect all 861 *NYT* articles.

Consequently, cluster sampling was the best sampling choice. I clustered relevant articles into subpopulations of “main news” (front page), “health,” “travel,” “editorial,” “op/ed,” and “The SARS Epidemic” column. Articles in “The SARS Epidemic” column are published across sections, meaning articles under “The SARS Epidemic” column may be found, for example, on the front page in “main news” in one issue and in “health” the next issue. Subsequently, the sampling frame for *NYT* was not identical to the population. In sampling from these clusters, the majority of articles in sports, business, arts and leisure, and other sections were excluded. The following is a breakdown of number of relevant articles by cluster. The total of relevant articles in these clusters is 210, slightly less than 25% of the total population.

Articles in clusters—“health,” “travel,” “editorial,” and “op/ed”—were all sampled. Articles on the front page and in “The SARS Epidemic” column were

randomly sampled. Two front page articles that were part of “The SARS Epidemic” column were excluded from the column’s sampling frame to avoid duplicate content units. I sampled 20% of articles in these sections. Figure 3.3 represents number of relevant and sampled articles by cluster for *The New York Times*.

Figure 3.3: Number of Relevant and Sampled Articles by Cluster for *The New York Times*.

<i>The New York Times</i>		
Cluster	Number of relevant articles	Number of articles sampled
Front Page (excluding “News Summaries”)	42	9
“The SARS Epidemic” Column	89	18
Health	23	23
Travel	25	25
Editorial	16	16
Op/Ed	15	15
Total	210	106

Los Angeles Times:

I applied stratified sampling to content units in *Los Angeles Times*. Riffe et al define *stratified sampling* as “breaking a population into smaller groups and random sampling from within the groups. According to Krippendorff, “stratified sampling recognizes distinct subpopulations (strata) within a population. Each sampling unit belongs to only one stratum, and the researcher carries out random or systematic sampling for each stratum separately.”²⁶⁶ The sampling frame of relevant newspaper articles, 459 articles, was extensive. Newspaper articles are organized by sections which, using Krippendorff’s terminology, can be considered subpopulations: For subpopulations in which relevant articles numbered more than 30, I randomly sampled articles.

Relevant articles are located in different sections of the *Los Angeles Times (LAT)*. Articles in the following sections—“Health Features,” “Opinion,” and “Travel”—were all sampled. I subdivided articles in the “Main News” section into articles that do and do not appear on the front page. I sampled all front page articles. For sections—“Metro,”

“Business,” “Sports,” and “Arts”—I randomly sampled articles. I sampled 20% of articles in these sections. Figure 3.4 is a breakdown of number of articles by newspaper section or subpopulation.

Figure 3.4 Number of Relevant and Sampled Articles by Section for Los Angeles Times

<i>Los Angeles Times</i>		
Section or Subpopulation Name	Number of relevant articles	Number of articles sampled
A—Main News	167	
Front Page	32/167	32
B—Metro	64	13
C—Business	90	18
D—Sports	54	11
E—Arts	37	8
F—Health Features	7	7
M—Opinion	13	13
L—Travel	27	27
Total	459	129

Congressional Publications:

I purposively sampled 12 Congressional Hearings. The 85 hits in the LexisNexis Congressional search actually resulted in 131 results once “prepared witness testimonies” were included. These 85 hits contained duplications. In some cases, identical results were listed more than once, while in other cases, witness testimony transcripts and prepared witness testimonies were listed separately from Federal Document Clearing House (FDCH) Political Transcripts—documents in which both testimony transcripts and prepared testimonies were included. In order to pare this down, I created a “word frequency report” using ATLAS-ti5’s *word cruncher* function. Number of times “SARS” appeared per document ranged from zero to 215. I excluded the following: (1) documents with less than 10 “SARS” mentions; (2) duplicate results; (3) appropriations bills; and (4) prepared witness testimonies if full-text FDCH political transcripts were available. If the full text transcripts were not available, I included the prepared

testimonies. Resulting from these inclusion and exclusion criteria were 12 Congressional Hearings contained within 25 documents.

Visual Images

I sampled all visual images in sampled articles, except for visual images not pertinent to SARS that were published in articles with discrete subdivisions. For example, *LAT*'s travel section articles were subdivided by topics, such as deals-of-the-week, travel advisories, and tourist destinations. Photographs and images featured in these subdivisions, if irrelevant to the SARS portion of the article, were excluded. Images associated with cover stories, that is cover images and table of content images, were also included. Additionally, I included one advertisement image found in a mainstream newsmagazine that I identified while collecting images from the hard copy issue of that magazine. I collected visual images from microform, hard copies of publications, and full-text articles available at publication websites. Figure 3.5 presents the total number of sampled visual images per data source.

Figure 3.5: Numbers of Sampled Visual Images by Data Source

Social World	Data Source	Sampled Visual Images
Government-Science	Mortality and Morbidity Weekly (MMWR)	23
	Emerging Infectious Diseases (EID)	15
Non-Government Science	Journal of the American Medical Association (JAMA)	28
	New England Journal of Medicine (NEJM)	48
	Science Magazine	93
Government-Public Policy	Congressional Hearings	0
Mainstream News Media	New York Times (NYT)	89
	Los Angeles Times (LAT)	78
	Time Magazine	37
	Newsweek Magazine	36
	U.S. News & World Report (UNWR)	33
Total		480

Discourse Analysis

This study's analytic approach is a discourse analysis that draws from narrative discourse analysis, visual discourse analysis, and framing analysis. In the following subsections, I describe key aspects of each approach and explain how they are relevant to my study's SARS discourse analysis.

Narrative Discourse Analysis

Narrative discourse analysis draws from materialist feminism and applies to written texts, such as first person narratives and Congressional Hearing transcripts. Nancy Naples places materialist feminism in conversation with Foucault's discourse analysis. Foucault incorporates a concept of power that allows for a "positioning" of power, approaches discourse as practice and not just signs, as well as provides useful concepts of governance and governmentality. However, she notes that this approach decentralizes the agency of subjects and ignores how policies are directed towards racialized and gendered subjects.²⁶⁹ She proposes: "By utilizing discourse analysis within a materialist feminist epistemology, I argue that the dynamics of gender, race, and class are brought into the frame more effectively than is possible with a non-feminist Foucauldian approach."²⁷⁰

As an example of a materialist feminist discourse analysis, she analyzes the 1987-88 U.S. Congressional Hearings on welfare reform. Before examining the actual dialogue at the Hearings, she provides an overview of the how gender, race, and class are positioned within welfare policy. She then outlines the development of her materialist feminist framework for policy analysis. Conventional policy analyses leave assumptions about women, the poor, and the family, as examples, unquestioned and reinforced.

Materialist feminist discourse analysis differs from traditional approaches to policy analyses, as it allows for an understanding of how power shapes what is heard and what matters within institutional settings. I apply narrative discourse analysis not only to Congressional Hearing texts, as Naples does, but to written texts in all social worlds. I make visible human elements that are active or passive, subjects or objects, and how they are raced, nationed, and gendered.

Visual Discourse Analysis

Visual discourse analysis draws from Foucault's work on institutional discourses that discipline bodies and maintain social order through visual practices such as the Panopticon and surveillance.²⁷¹ In his foundational text on visual discourse, *Discipline and Punish*, he details a shift in the operation of surveillance. At the end of the seventeenth century, social order was maintained in plague quarantines through "strict spatial partitioning" and a "system of permanent registration" where magistrates maintained complete power and control over the medical treatment and records of the ill. The Panopticon, on the other hand, operated through a different form of surveillance and discipline. As opposed to dungeons which enclosed, hid, and deprived light to inhabitants—the Panopticon only enclosed inmates who were always potentially visible:

Hence the major effect of the Panopticon: to induce in the inmate a state of conscious and permanent visibility that assures the automatic functioning of power. So to arrange things that the surveillance is permanent in its effects, even if it is discontinuous in its action; that the perfection of power should tend to render its actual exercise unnecessary; that this architectural apparatus should be a machine for creating and sustaining a power relation independent of the person who exercises it; in short, that the inmates should be caught up in a power situation of which they are themselves the bearers.²⁷²

Absolute power was no longer exerted by the sovereign king over subjects, rather it operated through the disciplining of individuals through visual practices and technologies.

Laura Mulvey's theorization of the "male gaze" provides a feminist approach to Foucault's visual discourse. In her classic essay, "Visual Pleasure and Narrative Cinema," she analyzes cinematic images and how they are read:

In a world ordered by sexual imbalance, pleasure in looking has been split between active/male and passive/female. The determining male gaze projects its fantasy onto the female figure, which is styled accordingly. In their traditional exhibitionist role women are simultaneously looked at and displayed, with their appearance coded for strong visual and erotic impact so that they can be said to connote *to-be-looked-at-ness*. Woman displayed as sexual object is the *leitmotif* of erotic spectacle: from pin-ups to strip-tease...she holds the look, and plays to and signifies male desire.²⁷³

Concepts of the "male gaze" and the objectified, sexualized feminine object are useful in feminist visual discourse analysis. In addition, the works of Joyce and Dumit, which I discuss in Chapter Two's section on "Technoscientific Visualities, Metaphors, and Significations," draw from and build upon Foucault's visual discourse analysis. They address biomedical visibility (MRI images and PET scans) as visual technologies and practices that both discipline and offer agency to human bodies, identities, and subjectivities.

I apply visual discourse analysis to visual images in government-science, non-government-science, and mainstream news media. Foucault's work on the Panopticon and surveillance establish visibility and, in turn, visual images as significant objects of analysis. Mulvey's theorization of the "male gaze" provides a feminist approach to visual discourse analysis that is especially pertinent to gendered visual embodiments of

SARS discourse. Finally, Joyce's and Dumit's analyses of biomedical visual technologies are relevant to an analysis of similar images in SARS discourse.

Framing Analysis

Framing analysis is an examination of discursive elements that order social phenomena. Erving Goffman sets forth an analytical approach to social reality that aims to “isolate some of the basic frameworks of understanding available in our society for making sense of events...”²⁷⁵ He defines “frame” as an element in the organization of an individual's experience with social reality and “frame analysis” as an examination of these elements.²⁷⁶ Zhongdang Pan and Gerald Kosicki provide an overview of scholarship that apply Goffman's concept of frames to an analysis of news media discourse. Additionally, they further develop framing analysis and put forth “themes” as central organizing ideas in news stories. Four framing devices—syntax, script, themes, and rhetoric—structure the organization of central ideas. Lexical elements are the words that fill structural framing devices. A framing analysis, using this approach, examines the structural and lexical elements of a news story.²⁷⁷ This study is interested in themes as framing devices in SARS discourse.

With respect to frames as organizing devices for social phenomena, frames organize diseases in news media and other texts. Blakely conducts a framing analysis of influenza pandemic media coverage. She defines the purpose of framing analysis:

The purpose of a framing analysis is to uncover the devices that frame the social construction of reality, the central organizing story lines that provide for social meaning. By defining a group of framing devices, a researcher can understand the conceptual framework through which news texts mediate the history they present.²⁷⁸

Through framing analysis, researchers can discern the ways news discourse distributes ideologies, produces realities, mediates histories, and functions as mythological narratives to reify societal norms.²⁷⁹ There are two predominant approaches to *framing disease*, credited to George Rousseau and Charles Rosenberg. While the Rousseauvian enterprise engages individual voices through analyses of literature, the Rosenbergian enterprise focuses on collective voices, such as public institutions. Diseases—once perceived, named, and responded to by society—are framed as social phenomena. The study of disease in social science approaches diseases as both framed by structural devices and frames for tensions in society:

Disease...became both the occasion and the agenda for an ongoing discourse concerning the relationship of state policy, medical responsibility, and individual culpability. It is difficult indeed to think of any significant area of social debate and tension—ideas of race, gender, class, and industrialization—in which hypothetical disease etiologies have not served to project and rationalize widely held values and attitudes.²⁸⁰

Diseases frame tensions in public policy, public health responsibility, and individual responsibility. In this study, I conduct a feminist, critical race theory-informed analysis of public health discourses that excavates the public health ethics underlying the discursive frames and themes that produce SARS as a public health urgency.

Computer Assisted Qualitative Data Analysis **Computer Assisted Qualitative Data Analysis**

A grounded theory approach involves systematic data collection and analysis — including microanalysis and numerous coding, memo-writing, and diagramming stages (open, axial, selective). That its procedures are more dynamic than linear, this approach allows for and guides researchers towards creative inquiries into conceptual relationships.

I use Computer Assisted Qualitative Data Analysis Software (CAQDAS) to organize collected sampling units, to create and order codes and memos, and to facilitate the generation of concepts, categories, and new and emerging theoretical propositions.

Computer Assisted Qualitative Data Analysis Software (CAQDAS) assists researchers in the management, coding, and qualitative analysis of data. A number of CAQDAS packages are commonly used, such as: ATLAS.ti, HyperRESEARCH, MAXqda, QDA Miner, QSR NVivo7, Qualrus, and Transana 2. Software packages considered CAQDAS share similar basic functionalities and organizational structures.³⁰⁷ Lewins and Silver note the following. First, researchers create “projects” that act as containers for data files and other relevant research materials, such as codes and memos.³⁰⁸ Data files, such as text and visual images, can either be linked into a “project” from outside the software or created within a “project.” An “external database” system is utilized if files remain outside the software and are linked.³⁰⁹ An “internal database” system is utilized if data files are copied into the project.³¹⁰ The distinction is significant depending upon researcher preference and types of data. Second, CAQDAS packages support most data types—such as full-text newspaper articles, field notes, and interview transcripts; however, only CAQDAS with external databases can support audio and video files.³¹¹ Third, CAQDAS has text search functions that allow for automated searching of words and phrases.³¹² Fourth, CAQDAS packages have “code and retrieve functionalities” that are integral to grounded theory methodology. Codes are user-generated, easily combined and/or amended, and flexibly applied both to single words and whole sections of text.³¹³ Automated coding is possible, and coded text is easily retrieved. Also integral to grounded theory methodology, CAQDAS offers different

types of “writing tools”—such as comments, annotations, and memos—that can be outputted, along with codes and coded text, into different files applications (Word, Excel, SPSS) for hard copy review.³¹⁴

This study used ATLAS.ti5 as the qualitative data analysis software. Lewins and Silver describe ATLAS.ti5:

ATLAS.ti was initially developed at the Technical University of Berlin as an interdisciplinary collaborative project between the psychology department, computer scientists, linguists and future users (1989-92). The prototype was then further developed by Thomas Muhr, and the company ATLAS.ti Scientific Software Development GmbH, formed in 2004, continues to develop and support the software.³¹⁵

I chose ATLAS.ti5 based upon recommendation and familiarity from prior limited experience. With respect to CAQDAS basic functionalities, ATLAS.ti5 uses an “external database” system that requires the user link outside data files to projects.³¹⁶ Projects, termed “hermeneutic units” (HU), are created which function as the “container” for the data files, memos, codes, etc. Texts to be analyzed are contained within HUs as primary documents (PDs). In order to edit PDs within the software, users must format data files as rich text files (rtf), not as Word documents. Word documents can be “assigned” or linked to the project as PDs, but they can not be edited. I needed editing capability, as visual images saved in Word documents did not properly import. I first imported text as rtf and then copied visual images into the established PD. Because roughly half of the data units in the *Journal of the American Medical Association (JAMA)* were republications of articles from *Mortality and Morbidity Weekly Report (MMWR)*, I combined data units (i.e. articles and reports) from government-science and non-government-science into one HU. I created three HUs as containers for the four social worlds: one HU for government-science and non-government science, one HU for

mainstream news media, and one HU for Congressional publications. Even though data units from government-science and non-government-science were housed in one HU, data analysis (i.e. microanalysis, coding, and memoing) still approached government-science and non-government-science as distinct social worlds.

I assigned every article in the data sources' sampling frames as PDs in respective HUs. In ATLAS.ti5, PDs can be organized into "families" which allows both for more control over coding and data file management.³¹⁷ I created "families" for different data sources contained within HUs, specifically for *The New York Times* and *Los Angeles Times*. Using a grounded theory approach to discourse analysis, I was able to compose and organize codes, memos, and analyzed texts, according to emergent concepts and relationships between concepts.

Chapter 4: Results

Introduction

As the central question, this study asks: What claims do different social worlds make to constitute public health discourses (particularly those of infectious disease outbreaks) that produce biopolitical subjects in raced-nationed-gendered formations? In order to address this central question, this study considers the following sub-questions. First, what are the central concepts in each social world's SARS discourse? Second, what is the "risk" component of each of these discourses? Third, in what ways do these discourses construct raced-nationed-gendered formations? What are these formations? Fourth, what are the underlying public health ethics of each social world's SARS discourse?

In this chapter, I present the results and concepts that emerge from the discourse analysis, including an analysis of visual images. The results are organized into sections by social worlds—government-science, non-government science, mainstream news media, and government-public policy. This is followed by results of the visual discourse analysis which are also organized by social worlds. In each section, I elaborate on the emergent concepts and the relationships between concepts.

Data Sampling Results

For the government-science social world, I sampled a total of 29 articles and 38 visual images collected from *Morbidity and Mortality Weekly Report (MMWR)* and *Emerging Infectious Diseases (EID)*. For the non-government-science social world, I

sampled a total of 93 articles and 169 visual images from *New England Journal of Medicine (NEJM)*, *Journal of the American Medical Association (JAMA)*, and *Science*. For mainstream news media, I sampled a total of 290 articles and 273 visual images from *Time*, *Newsweek*, *U.S. News & World Report (UNWR)*, *The New York Times (NYT)*, and *Los Angeles Times (LAT)*. For the government-public policy social world, I sampled a total of 12 Congressional Hearings and zero visual images. Figure 4.1 represents the total number of sampled texts and visual images per social world.

Figure 4.1: Numbers of Sampled Texts and Visual Images by Social World

Social World	Sampled Text*	Sampled Visual Images*
Government-Science	29	38
Non-Government-Science	93	169
Mainstream News Media	290	273
Government-Public Policy	25**	0
Total	437	480

*Number of articles or visual images sampled per social world.

**Number of search results sampled that comprise 12 Congressional Hearings.

SCIENCE ARENA—Government-Science Social World

Scope of SARS: SARS Cases in the United States

This section emerges from my attempts to present a brief overview of the global and national scope of the SARS epidemic. I struggled over how best to present “science” data on SARS without embracing numbers and figures on only their literal levels. To put forth numbers of SARS cases and case-fatality rates as objective realities belies this study’s interest in the public health urgency of SARS as a discursive construction. For example, in its annual “Summary of Notifiable Diseases” for the United States in 2003, *MMWR* publishes two types of SARS information. In the highlights section, it presents a brief SARS overview:

On March 12, 2003, the World Health Organization (WHO) issued a global alert for severe acute respiratory syndrome (SARS), a potentially fatal new infectious disease that can spread rapidly from person to person and via international air

travel. WHO and its partners, including CDC, initiated a rapid, intensive, and coordinated investigative and control effort that led within 2 weeks to the identification of the etiologic agent, SARS-associated coronavirus (SARS-CoV), and to a series of effective containment efforts. By July 2003, when SARS-CoV transmission was brought to an end, >8,000 cases and 780 deaths had been reported to WHO. Of the 161 total cases reported from the United States, 134 were classified as suspected; 19 were classified as probable; and eight were laboratory confirmed. As of July 1, 2003, SARS-CoV disease was added to the list of nationally notifiable diseases.³¹⁸

Second, it includes SARS data in its many tables. The first table, “Reported cases of notifiable diseases, by month—United States, 2003,” reports eight total SARS cases for the year³¹⁹ (See Appendix, Figure A.1.³²⁰) Six cases were reported in March, and two cases total were reported in April and May.³²¹ Of these eight confirmed SARS cases, seven cases traveled internationally within 10 days of illness onset to areas with community transmission of SARS, and the remaining case was married to one of the before-mentioned confirmed SARS cases with travel exposure.³²² Appendix, Figure A.1 includes only these 8 laboratory-confirmed cases in *MMWR*’s annual summary of SARS data.³²³

This is significant in several ways. First, based only upon these annual summary figures, it could be argued that the U.S. experienced very few SARS cases compared to the rest of the world. Hence, it could be argued that the "actual" level of SARS threat to the U.S. must have been low. After all, 8 cases, while technically an outbreak, pales in comparison to the more than 8,000 SARS cases experienced worldwide. How many of these 8,000 SARS worldwide were laboratory-confirmed, however, is not indicated by *MMWR* during this study’s time frame. I could present these summary case numbers as the most accurate and, thus, only description of SARS’ scope in the U.S. However, I choose not to do so. Making such an argument based upon these figures approaches

statistics as static epidemiological facts and not as constructed elements in SARS discourse. Instead, I trace changes to how SARS cases were reported in *MMWR* and the rationale provided, if any, for these changes. This approach is more methodologically and conceptually inline with this study's interest in the public health urgency of SARS as a discursive construction. A mere presentation of summary figures and statistics, on the other hand, would actually reify the science arena as a source of definitive knowledge.

Whether a person has or doesn't have SARS is less a matter of immutable fact and more a matter of how SARS is constructed at a certain moment in a certain location.³²⁴ The scope of SARS' impact, in terms of number of cases worldwide and in the U.S., is articulated in various ways over time depending upon case definition changes and upon the use of different case definitions by nations. Appendix, Figure A.2 reports numbers of SARS cases by selected locations; however, it notes that these locations—Hong Kong, Vietnam, Thailand, Taiwan, and the United States—use different SARS case definitions.³²⁵

Public health organizations alter case definitions based upon emerging data and evidence. Over a six-month period, numbers of “SARS cases” were inconsistently classified as “reported cases,” “suspect cases,” “probable cases,” laboratory-confirmed cases, laboratory-negative cases, and laboratory-indeterminate cases. The numbers and types of cases considered more accurately descriptive of the scope of SARS in the U.S. were not static or constant. Based upon the iteration of the U.S. case definition put forth and altered by CDC and the Council of State and Territorial Epidemiologists (CSTE), the U.S. had, for example, 418 total SARS cases and then several days later had 211 total SARS cases. While *MMWR* reported eight laboratory-confirmed SARS cases from June

11 to July 15, this eight did not assume significance as a primary articulation of SARS' scope until after CSTE altered the U.S. SARS case definition on June 26. Due to *MMWR*'s reporting of SARS cases, based upon inconsistent case definitions, it is difficult to compare numbers of cases over time and across locations. In this section, I trace what *MMWR* reports with respect to numbers of SARS cases and the rationale provided, if any, for changes in reporting practices.

In Appendix, Figure A.3, I summarize numbers of SARS cases reported by *MMWR* worldwide and in the U.S. over time. Inconsistencies in the representation of data in the table reflect inconsistencies in the reporting of data in *MMWR*. I do not utilize these case numbers for their literal readings. I trace what *MMWR* publishes with respect to SARS case numbers over time, in order to excavate the science arena's discursive construction of SARS, in particular the epidemic's impact in the U.S. in terms of the numbers of people infected with SARS.

Based upon *MMWR* reports, CDC presents several iterations of its SARS case definition over a six-month time period. As of March 19, 2003, CDC puts forth a "preliminary case definition" for a "suspected case"³²⁶ (see Appendix, Figure A.4). Three days later, as of March 22, 2003, *MMWR* puts forth the "CDC updated interim case definition"³²⁷ (see Appendix, Figure A.5). This "updated interim case definition" is very similar to the March 19th "preliminary case definition" except that it alters the "close contact" criterion. The "preliminary case definition" details this criterion as: "close contact within 10 days of onset of symptoms with a person under investigation for or suspected of having SARS."³²⁸ The "updated interim case definition" revises this to: "close contact within 10 days of onset of symptoms with either a person with a

respiratory illness and travel to a SARS area or a person under investigation or suspected of having SARS.”³²⁹ “A person with a respiratory illness and travel to a SARS area” is, in effect, introduced as a *risky subject* in terms of close contact. The reason for revising the “preliminary case definition” to the “updated interim case definition” is not provided.

More than a month later, as of April 29, 2003, *MMWR* puts forth an “updated U.S. surveillance case definition” (Appendix, Figure A.6).³³⁰ While the epidemiologic criteria remains the same, laboratory criteria is updated to reflect evidence of infection with the SARS-associated coronavirus (SARS-CoV).³³¹ New evidence suggests SARS infection as etiologically associated with SARS-CoV, a novel coronavirus identified in the specimens of SARS patients.³³² Expanded clinical criteria reflect a range of respiratory illness associated with SARS-CoV—asymptomatic or mild, moderate, and severe.³³³ With respect to epidemiologic and laboratory criteria, they are similar. They differ in that probable cases meet the “clinical criteria for severe respiratory illness of unknown etiology” and suspect cases meet the “clinical criteria for moderate respiratory illness.”³³⁴ Reported SARS cases are to be classified as suspect or probable and can be further classified as laboratory-confirmed, laboratory-negative, or laboratory-indeterminate (Appendix, Figure A.7).³³⁵

In its July 18, 2003 report, *MMWR* publishes the final changes to the U.S. SARS case definition over this six-month time period.³³⁶ Revised laboratory criteria requires the collection of convalescent serum specimen >28 days after illness onset, as opposed to >21 days originally required in the April 29th interim case definition.³³⁷ This change is due to new evidence that suggest some people may not mount a “detectable antibody response >28 days after illness onset.”³³⁸ Additionally, *MMWR* reports that the Council

of State and Territorial Epidemiologists (CSTE) changed the U.S. SARS case definition on June 26 to exclude cases with negative convalescent serum specimen.³³⁹ This change is based upon evidence that suggest “>95% of patients with SARS mount a detectable convalescent antibody response.”³⁴⁰ *MMWR* explains:

Serologic testing results suggest that a small proportion of persons who had illness consistent with the clinical and epidemiologic criteria for a U.S. case of suspect or probable SARS actually had SARS. The case definition captures an array of respiratory illnesses that cannot be easily distinguished from SARS until laboratory testing results for SARS and other agents are performed. However, this sensitive case definition allowed for rapid investigation of persons who might have had SARS and for public health intervention to prevent person-to-person transmission.³⁴¹

As a result, a total of 207 SARS cases (169 suspect, 38 probable) were excluded from the total of 418 SARS cases.³⁴² SARS cases, for which convalescent serum specimen were not obtained, totaled 203 (175 suspect, 28 probable) cases.³⁴³ In other words, it is unknown whether these 203 cases had SARS.³⁴⁴ Only 8 of the 418 SARS cases, reported as of July 15, were actually laboratory-confirmed SARS cases (Appendix, Figure A.8).³⁴⁵

Due to these inconsistencies, CDC reports a doubling of suspected cases from March 26 to April 2 (from 51 to 100), and a height of 419 total SARS cases as of July 2, only to report 8 laboratory-confirmed SARS cases in its end-of-the-year summary as the most accurate numerical representation of SARS cases in the U.S. during 2003.

While the articulation of cases and case numbers fluctuated somewhat significantly throughout *MMWR*'s publications, exposure categories of SARS cases and transmission of SARS in the U.S. remained fairly constant in its content and articulation. For example, *MMWR* states: “The majority of suspect and probable cases of SARS in the United States continue to be travel associated, with only limited secondary spread to contacts such as family members and HCWs.”³⁴⁶ That the majority of SARS cases in the

U.S. resulted from international travel and not as a result of almost non-existent community transmission in the U.S., remains constant throughout *MMWR*'s SARS discourse.

Through its reporting of SARS case numbers, the government-science social world situates public health organizations as making claims about the global and U.S. scope of the SARS epidemic. A weekly tracing of reported numbers and case definition changes reveals an inconsistent classification system over time and across locations. However, the rationale behind these changes and inconsistencies are often, though not always, explained by *MMWR*. This situates public health organizations as transparent producers of SARS knowledge. That case definitions are presented as “preliminary,” “updated,” and interim” reflects this social world’s efforts to produce SARS knowledge even in the midst of a public health urgency in which much is unknown. In other words, public health organizations, specifically CDC, present themselves as honest in their uncertainties but still productive in communicating their work.

Public Health Organizations

Public health organizations are the primary subjects in government-science. In the midst of public health urgencies, specifically emergent infectious diseases, they function as experts and authorities. They work to produce SARS knowledge and control its spread. Public health organizations are discursively constructed as authoritative producers of epidemiological knowledge about SARS and as sources for SARS control guidelines and recommendations. Those mentioned include:

- CDC, including SARS State Support Team and SARS Investigative Team at the CDC Emergency Operations Center, and CDC's Division of Global Migration and Quarantine
- state and local health departments in the United States
- WHO, including WHO-organized SARS Laboratory Network
- Health Canada and Ontario Ministry of Health and Long-Term Care, Toronto Public Health
- Chinese Ministry of Health
- Hong Kong Department of Health and Hong Kong health authorities
- Taiwan Department of Health
- Vietnamese Ministry of Health, Vietnamese government
- Ministry of Public Health in Thailand
- Tang Tock Seng Hospital (TTSH)/Communicable Disease Center, Singapore Ministry of Health
- Council of State and Territorial Epidemiologists

Not all mentioned public health organizations actually contribute to the reporting of *MMWR* and *EID* publications.

This SARS discourse analysis is based upon CDC's *MMWR* and *EID* publications.

This sampling decision, I recognize, situates CDC as the only government publication entity for SARS discourse within this social world. Contributing to the majority of *MMWR* publications are the SARS Investigative Team (CDC), Epidemic Intelligence Service officers (EIS), and state and local health departments. Public health organizations, not U.S.-based, also contribute to the reporting of these *MMWR* publications, including World Health Organization (WHO), and public health departments and health care facilities from Canada, Taiwan, Thailand, Vietnam and Singapore. Contributors listed by name are non-WHO and non-CDC affiliated, with the exception of EIS officers. Authors of *EID* articles include researchers from Tan Tock Seng Hospital (TTSH) in Singapore and Taiwan Department of Health. Acknowledging these non-CDC contributing entities is significant. Because *MMWR* and *EID* are CDC publications, CDC is the only public health organization always active in the discursive

construction of SARS, even when not explicitly mentioned in the content of all government-science texts.

Risk Component of SARS Discourse

Sentences and visual images containing the word “risk” in *MMWR* and *EID* publications comprise the analyzed risk component. Public health organizations use research and technology to reduce “risk of/for X” from *risky subjects* and/or *risky spaces and places* to *at-risk subjects* and/or *at-risk spaces and places*. Certain spaces can be considered *sites of risk*, and certain activities can be considered risky.

The “risk” concept consists of five main components. First, risk is either a “risk of” or a “risk for” X. X includes: “risk of infection,” “risk of transmission,” “risk for translocating disease to other areas,” and “risk for importation and spread of SARS.” Second, someone, some area, or something is described as risky. *Risky subjects* include SARS cases, specifically “potential SARS patients” and “patients with suspected or probable SARS.”³⁴⁷ *Risky spaces and places* include “areas of health risk to travelers” and high-risk areas as “Mainland China, Hong Kong, Hanoi, Singapore.”³⁴⁸ *Risky activities* include “nonessential travel” and “high risk procedures.” Third, someone or some area is described as “at-risk.” *At-risk spaces and places* include “other areas at risk of translocation of SARS” and Taiwan as “at ongoing risk for importation and spread of SARS.” *At-risk subjects* include travelers, resident expatriates, healthcare workers, and close contacts. Fourth, *sites of risk* include health care facilities, specifically medical facilities or offices in the U.S., the emergency department in Taiwan, and TTSH and SGH in Singapore. Fifth, research and technology used to reduce risks include:

epidemiologic studies; travel alerts and advisories; gloves, goggles, respirators; fever clinics; and surveillance of health care workers.³⁴⁹

The risk component in government-science's SARS discourse is de/raced, de/nationed, and de/gendered in several ways. Risk is discursively constructed as a threatening possibility posed by *risky subjects*, *risky spaces and places* and *risky activities*, to *at-risk subjects* and *at-risk spaces and places*. Research and technologies, produced and recommended by public health organizations, are positioned as risk countermeasures. The de/racing, de/nationing, and de/gendering of SARS cases as *risky subjects* differ between written text and visual images. *Risky spaces and places* and *risky activities* are literally nationed in both written text and visual images and underscore the significance of borders and boundaries to risk containment.

SARS Cases as Risky Subjects

Human elements characterized as *SARS cases* only serve functions in epidemiological descriptions produced by public health organizations. They are present but not active as human elements with subjectivities. SARS cases is a broad category that includes the following: "index patients," "probable index patients," "suspected SARS cases," "probable SARS cases," "reported SARS cases," "SARS patients," "super spreaders," "local transmission pairs," "clusters of SARS cases," "quarantined cases," and "hospitalized patients with unrecognized SARS."³⁵⁰ SARS cases characterized as "super spreaders of SARS" are patients that have "infected > 10 HCWs, family and social contacts, or visitors to the health-care facilities where the patients were hospitalized."³⁵¹ "Quarantined cases" include "quarantined person or group of persons,"³⁵² "persons under Level A and B quarantines in Taiwan,"³⁵³ "quarantine violators,"³⁵⁴ "persons living in

Taipei and Kaoshung who were under home quarantine.”³⁵⁵ These cases are never identified by individuals’ names. They are referred to as “Patient A” and “Patient L,” for example.³⁵⁶

In the written text, sex/gender and/or race are not consistently used as descriptors. Nation, in the sense of the nationality of a SARS case, is also rarely mentioned. When gender is discernible, it is through the use of “woman,” “man,” “husband,” “wife,” “father,” and through pronouns. In *MMWR*, when gender is made most explicit, it is in the case of married couples, both of whom are SARS patients, and in the case of a father-child pair. In general, SARS cases are de-gendered in *MMWR*’s written text. They are also de-raced and de-nationed in the written text, except for one description of a probable index patient as an “Asian-American businessman aged 47 years who had visited Hong Kong.”³⁵⁷ In this instance, the SARS case is gendered, raced, and nationed as an “Asian-American businessman.” This, however, is the only exception in *MMWR* publications.

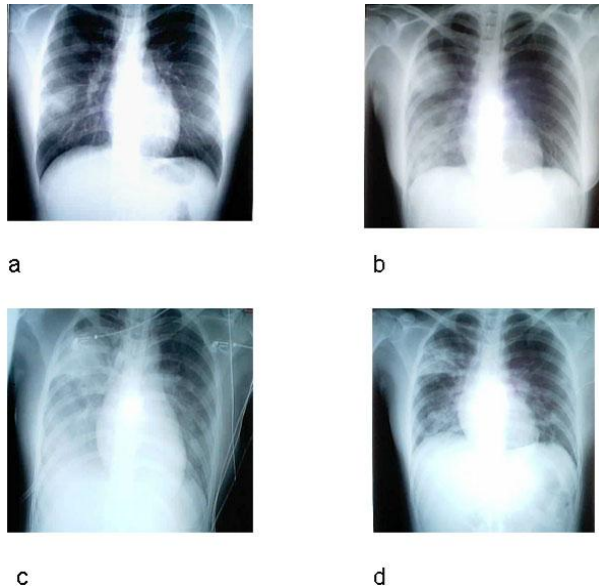
For the most part, *EID* also de-genders, de-races, and de-nations its discursive construction of SARS cases in its written text. As an exception, it notes that the majority of SARS cases in Singapore are women: “Because most healthcare staff in our hospital are women, a high proportion of the case-patients (75%) were female.”³⁵⁸ In its description of Singapore’s index case, it genders, races, and nations the SARS case: “The index case of SARS in Singapore occurred [sic] in a previously healthy 23-year-old woman of Chinese ethnicity who had stayed on the 9th floor of a hotel during a vacation to Hong Kong, February 20-25, 2003.”³⁵⁹ That she is identified as “of Chinese ethnicity” in Singapore, races her as Asian within American racial discourse and nations her as

Chinese within the context of Singapore. *These instances are exceptions to how MMWR and EID publications generally de-race, de-gender, and de-nation SARS cases in its written text.*

In its visual images, on the other hand, MMWR and EID enumerate SARS cases by sex/gender or race, but not the intersection of sex/gender and race. Out of 16 tables that report numbers of SARS cases, 8 enumerate both sex and race, four enumerate only sex, and zero enumerate only race. Appendix, Figure A.9 reports number of reported SARS cases in the U.S. as of May 28th, 2003.³⁶⁰ This is the last table published in *MMWR* that characterizes the sex and race of SARS cases within this study's six-month time frame. According to these figures, 59% and 27% of probable cases were male and female, respectively.³⁶¹ In terms of suspect cases, 52% and 48% of suspect cases were male and female, respectively.³⁶² Of probable cases, 44% were white, and 42% were Asian.³⁶³ Of suspect cases, 55% were white, and 33% were Asian.³⁶⁴ This data is not organized in a way to determine the percentages of suspect and probable cases that were, for example, black males or Asian females. Furthermore, in that this data precedes the June 26th change to the U.S. SARS case definition, it is unclear how relevant or accurate these percentages remain. Of the 7 laboratory-confirmed SARS cases as of May 28th, the race and/or sex of the cases is indeterminable from this table. *EID* publishes a table (Appendix, Figure A.10) that presents the "demographic description of patients with severe acute respiratory syndrome" in Singapore that describes SARS cases by "No. of men." While not mentioned, the alternative is presumably "No. of women."³⁶⁵ This is not made explicit.

Government-science publishes visual images that present the raced-nationed-gendered body as evidence. *EID* publishes four sequential chest radiographs of the Singapore index patient by days of symptoms³⁶⁶ (see Image 4.1). The gross internal pathology of the index patient—the “previously healthy 23-year-old woman of Chinese ethnicity”³⁶⁷—is visually knowable through biomedical technology that renders the viscera, otherwise invisible to the naked eye, visible to scientists and, in turn, readers of *EID*. The boundary between what is visible to the naked eye and what can only become visible through diagnostic imaging technology is crossed in order to objectify her raced-nationed-gendered body—the body of the index patient in Singapore—as evidence and data. This positions scientists and the science arena as authoritative producers of SARS knowledge.

Image 4.1: Government-science produces raced-nationed-gendered body as visual evidence.
Source: Hsu L-Y, Lee C-C, Green JA, Ang B, Paton NI, Lee L, et al. Severe acute respiratory syndrome (SARS) in Singapore: clinical features of index patient and initial contacts. *Emerg Infect Dis* [serial online] 2003 Jun [date cited]. Available from: URL: <http://www.cdc.gov/ncidod/EID/vol9no6/03-0264.htm>



Risky Spaces and Places and Risky Activities

Risky spaces and places and risky activities are literally nationed and underscore the significance of national and bodily boundaries to risk containment. Risky spaces and places are constructed in the classification of SARS exposure categories, in MMWR's reports of CDC's travel advisories, and in U.S. SARS case definitions. Risky activities, specifically stated as "nonessential travel" and high-risk procedures, hinge upon crossing specific national borders and blurring the boundaries between risky and at-risk human bodies via airborne infectious agents.

Exposure categories for SARS cases include: occupation as a health-care worker, close contact with a SARS case, and travel to a "high-risk area."³⁶⁸ Close contact is specifically defined as: "having cared for, having lived with, or having had direct contact with respiratory secretions and/or body fluids of a person suspected of having SARS."³⁶⁹ High-risk areas are specifically stated as "Mainland China, Hong Kong, Singapore, and Hanoi" in the April 18 graph, for example, that enumerates reported SARS cases by exposure categories³⁷⁰ (Appendix, Figure A.11). With respect to travel advisories and travel alerts, *MMWR* explains the rationale behind CDC's issuance of each:

Travel alerts and advisories are notifications that an outbreak of a disease is occurring in a geographic area outside of the United States. A travel alert, the lower-level notice, provides information about the disease outbreak and informs travelers and resident expatriates of ways to reduce their risk for infection. An alert does not include a recommendation against nonessential travel to the area. When the health risk for travelers is thought to be high, a travel advisory is issued that recommends against nonessential travel to the area. Travel advisories are intended to reduce the number of travelers to areas with SARS and the risk for translocating disease to other areas.³⁷¹

As an example, *MMWR* reports: "CDC issued a travel advisory suggesting that persons planning nonessential travel to Hong Kong, Guangdong, or Hanoi consider postponing

their travel...³⁷² These “high-risk” areas are literally nationed as China, Singapore, and Vietnam. Additionally, in the various iterations of its SARS case definition, CDC includes travel to areas of transmission as epidemiologic criteria. For example, in the April 29 updated interim SARS case definition, *MMWR* reports: “Travel (including transit in an airport) within 10 days of onset of symptoms to an area with current or recently documented or suspected community transmission of SARS...³⁷³ Specific areas of travel are stated as the following:

Areas with current documented or suspected community transmission of SARS include mainland China and Hong Kong Special Administrative Region, People’s Republic of China; Singapore; Taiwan; and Toronto, Canada. Hanoi, Vietnam is an area with recently documented or suspected community transmission of SARS.³⁷⁴

Areas of SARS transmission, primarily East and Southeast Asian states but also Canada, are nationed as *risky spaces and places* in SARS case definitions. “Nonessential travel” to *risky spaces and places* is considered a *risky activity*. Risk derives not only from travelers crossing into *risky spaces* but also arriving from *risky spaces* and crossing into the U.S. *MMWR* reports surveillance of arriving passengers:

On March 16, CDC began advising passengers arriving on direct flights from these three locations [Hong Kong, Guangdong, or Hanoi] to seek medical attention if they have symptoms of febrile respiratory illness. As of March 18, approximately 12,000 advisory notices had been distributed to airline passengers. In addition, surveillance is being heightened for suspected cases of SARS among arriving passengers. As of March 19, a total of 11 suspected cases of SARS in the United States are under investigation by CDC and state health authorities.³⁷⁵

The classification of exposure categories, SARS case definitions, and travel advisories and alerts are, in effect, technologies produced by public health organizations to counter SARS risk.

Finally, high-risk procedures, such as “aerosol-generating procedures,”³⁷⁶ pose transmission risks from SARS cases to health-care workers. Boundaries between *risky subjects* (SARS cases) and *at-risk subjects* (health-care workers) are at-risk of merging via a boundary-transgressing airborne infectious microbe, the SARS causative agent.

MMWR reports Singapore’s instituted infection-control measures:

All HCWs attending to patients with suspected or probable SARS are required to wear gloves, gowns, goggles, and N95 or equivalent respirators; positive air purifying respirators (PAPR) are required for high-risk or aerosol-generating procedures.³⁷⁷

These measures and material objects, such as goggles and N95 respirators, are technologies mandated, at least by Singapore’s public health organizations, to counter SARS risks posed to health-care workers.

SARS: Nature’s Threat to Human Progress

The government-science social world does not, for the most part, discursively construct its SARS discourse through the use of metaphors. However, *EID* cover articles introduce two well-known pieces of art as symbols in its discourse. *EID* analogizes Henri Matisse's *Icarus* to humanity’s constant struggle against nature (Appendix, Figure A.12)³⁷⁸:

Our age has transformed Icarian and heliotropic quests into space exploration. We orbit the globe, defying the sun and the forces of gravity, for we still long for the charged moment of discovery that comes from roaming the earth and beyond. Yet, we have conquered neither gravity nor the mundane hazards at our destinations. Like Daedalus’ crude fabrications, our wings still melt in the heat, and during travel, we fall prey to biologic hazards, exotic microbes. Be it emergent viruses (such as the cause of severe acute respiratory syndrome) or common intestinal bacteria (including *Aeromonas* spp.), the most insistent plague of travelers, these hazards slow the journey and limit the height of human exploration.³⁷⁹

This analogy situates human technological and scientific progress in opposition to an always threatening nature. As the latest “exotic microbe,” SARS represents a timely metaphoric threat. This article, written in third person plural, refers to “our,” that is humankind's, scientific inquiry and exploration. In this metaphor, the government-science social world presents its work as representative of human scientific and technological progress against nature's dangers.

Additionally, *EID* frames SARS as a contemporary example of an unfortunate consequence of animal-human cohabitation: “...severe acute respiratory syndrome...travel[s] from furry creatures to humans, in a complex zoonotic cycle.”³⁸⁰ Jan Steen's *Beware of Luxury* depicts a 17th century Dutch domesticity which “turns out not much different from our own” in that “humans cohabited with animals, on amicable terms and in close proximity” (Appendix, Figure A.13). When humans and animals exist in too close proximity, disease microorganisms that are ordinarily hosted by animal reservoirs infect humans. Humans need to be wary of the boundaries between themselves and nature's creatures or else risk the danger of diseases.

While *EID* introduces powerful discursive frames that position SARS as a symbol of nature's always present threat to human progress and health, it does not carry these discursive constructions throughout the social world's SARS discourse. Furthermore, this framing is actually at odds with its very straight-forward presentation of epidemiological, biomedical, and public health data. I include these metaphors as they appear throughout the other social worlds' SARS discourses.

What claims are not made about SARS from the government-science social world?

This social world discursively constructs the public policy arena and mainstream news media arena as largely absent³⁸¹ in its SARS discourse. For the most part, government-science also presents SARS as politically and economically insignificant. Major debates and issues of contestation are mostly not addressed. SARS discourse is presented as a mere straightforward reporting of data, findings, guidelines, and updates. For example, while the government-public policy social world explicitly addresses the development of a strong and flexible global public health infrastructure as a political and economic issue, *MMWR* matter-of-factly presents the following recommendation:

The international spread of disease underscores the need for strong global public health systems, robust health service infrastructures, and expertise that can be mobilized quickly across national boundaries to mirror disease movements. The Institute of Medicine has recently issued recommendations for invigorating the response to emerging infectious diseases that reflect these needs, including the development of a comprehensive system of surveillance for global infectious diseases, the enhancement of disease reporting, the development of diagnostic tests, and the formulation and distribution of guidelines on diagnosis.³⁸²

“Strong global public health systems” and “robust health service infrastructures” are put forth as necessary for global public health; however, the political and economic ramifications of developing such systems and infrastructures are not discussed.³⁸³

Additionally, government-science neither extols the virtues nor criticizes the inadequacies of particular individuals. Officials, experts, researchers, and SARS cases are not identified by name. The only human elements mentioned by name are organizations and agencies, not individuals.³⁸⁴ This is a distinguishing feature of this social world.

SCIENCE ARENA—Non-Government-Science Social World

Primary Human Elements: SARS Cases, The Public, The Science Arena

With respect to primary human elements, *SARS cases*, *the public*, and the *science arena*, including public health, emerge as the most significant. SARS cases are present only as objects, not as subjects. They are sources for lab specimens and objects of epidemiological investigations. The public is positioned as in need of protection by government agencies and public health institutions. Public health organizations, health-care workers, and the world of scientific research are applauded for their hard work and successful investigations.

SARS cases are present only for their relevance in epidemiological investigations, as sources for lab specimens, and as objects of patient management. They are, with one exception, present without human subjectivity. Figure 4.2 depicts types of “SARS cases” by data source. Names of individuals categorized as SARS cases are not mentioned. Non-government-science more often genders and/or races and/or nations SARS cases, compared to that in government-science’s written text. However, they are rarely explicitly gendered, raced, and nationed at once. More commonly, they are constructed through *race-nation* and gender. Such cases are generally index patients, first cases in particular locations, and first victims.

SARS cases are rarely gendered, raced, and nationed at once. The following is the exception: “Patient 4 was a Chinese-Canadian businessman who had returned to Hong Kong for a family reunion.”³⁸⁵ In this example, the case is literally gendered “man,” nationed as “Canadian,” and raced as “Chinese” and, in turn, as Asian. SARS

Figure 4.2: Types of “SARS cases” by Data Source

		Data Sources		
	<i>AJPH</i>	<i>JAMA</i>	<i>NEJM</i>	<i>Science</i>
SARS Cases	N/A	<ul style="list-style-type: none"> • “probable cases” • “suspected cases” • “SARS deaths” • “first cases of SARS” • “index cases” • “SARS patients” • “critically ill patients with SARS” • study populations in research studies 	<ul style="list-style-type: none"> • “probable cases” • “suspected cases” • “first cases of SARS” • “index patients” • “patients meeting the case definition of SARS” • “secondary and tertiary cases” • “source patients” • “problematic SARS case[s]” 	<ul style="list-style-type: none"> • “suspected cases” • “first known SARS patient” • “index patient[s]” • “SARS patients” • “people infected with SARS” • “asymptomatic SARS carriers” • “super spreaders”

cases are not usually presented in this way. *They are, instead, gendered and raced-nationed.* For example, *JAMA* characterizes the first SARS cases in Canada: “...the first cases of SARS in Canada involved a family of Hong Kong descent who live in Toronto. A 78-year-old woman and her husband traveled to Hong Kong...to visit relatives.”³⁸⁶ They are explicitly gendered as “wife” and “husband,” implicitly raced as Asian, and ambiguously nationed as either Chinese and/or Canadian. Additionally, *NEJM* refers to the first cases in Toronto as Patients 1 through 10 and describes them as linked to “members of a multigenerational family of Hong Kong descent who live in Toronto.”³⁸⁷ Again, SARS cases are implicitly raced as Asian and ambiguously nationed as either Chinese and/or Canadian. I refer to this discursive construction as *race-nation*—the implicit and ambiguous race-nationing of SARS cases as primarily Asian, regardless of nationality. Gender and age of Patients 1 through 10 are discernible in both the written text and visual charts through the use of “woman” and “man” and through the use of gendered familial relations, such as “husband,” “sons,” “daughter-in-law,” and pronouns, such as “he,” “his,” and “her.” Race/ethnicity is only discernible as “of Asian descent” and “of non-Asian descent”³⁸⁸ in specific descriptions of Patient 1 through 10. For

example, *NEJM* describes specific SARS cases: “The first case was in a previously healthy 37-year-old female family physician of Asian descent” and “[Patient 8 was a] 76-year-old man of non-Asian descent.”³⁸⁹ *SARS cases are raced-nationed as either Asian or not-Asian.*

SARS cases are discursively constructed as objects, not subjects. They are presented without human subjectivity, as sources for specimens, and as objects of patient management. Public health scientists and experts who are SARS cases, on the other hand, are exceptions to this pattern. For example, *Science* publishes a brief profile, entitled “Researcher Told to Stay Home after China Trip,”³⁹⁰ that profiles the experience of Ian Lipkin, a Columbia University researcher who traveled to China at the request of the Chinese government to assist with the country’s SARS control efforts. Upon his return to the U.S., he was instructed by the New York City Department of Health to isolate himself. In the article’s interview with Lipkin, it reports how he conducted lab tests on his own specimens to discern for himself whether or not he was infected. Based upon his own findings, he was convinced that he was not infected with SARS; however, he still chose to comply with the City’s isolation request. Unlike the discursive construction of other SARS cases, Lipkin is interviewed, referenced, and directly quoted. His experience and the choices he makes as a designated SARS case is presented. He is characterized as possessing subjectivity. Additionally, Dr. Carlo Bruni, a WHO infectious disease specialist who died from SARS infection, is commemorated as a dedicated scientist who risked his life and died in service to global public health:

Whatever the future direction of SARS, it is clear that Dr. Urbani’s decisive and determined intervention has bought precious time and saved lives. We remember Dr. Urbani with a mixture of pride in his selfless devotion to medicine and

unspeakable grief about the void his departure has left in the hearts of his colleagues around the world.³⁹¹

SARS cases who are public health experts and scientists are presented as possessing human, even heroic, subjectivities. Other than these exceptions, *SARS cases* are present only for their relevance in epidemiological investigations and patient management.

The public is positioned as in need of protection by medical press, government agencies, and responsible private industry from mainstream media and con-artists. The public is situated as consumers and as potential dupes in need of public-private guidance. Pivoting upon responsibilities to the public, various government agencies, media forums, and private industry seek to inform and protect against misinformation and false claims. For example, the public needs public health communication and “solid data” to make “rational decisions”:

The medical press and governmental health authorities also deserve considerable credit for recognizing the importance of expeditiously publishing facts about the outbreaks. These efforts have enabled the medical community and the public to make more rational decisions about how their communities should respond to SARS based on solid data rather than on sound bites or personal testimonials in the media.³⁹²

The news media arena, in the above, is described as a producer of “sound bites” and “personal testimonials”—knowledge upon which the public should not base “rational decisions” with respect to its SARS response. Additionally, “consumers” constitute aspects of “the public” that benefit from the interventions of government regulatory agencies and “private industry” regulation. Two government agencies, U.S. Food and Drug Administration (FDA) and Federal Trade Commission (FTC), and the coalition of dietary supplement industry trade groups work to stop websites from falsely marketing certain dietary supplements as SARS-preventative or -curative products. The

websites are described as peddling quacks, and the government and “private industry” agencies are presented as protecting consumers and the sanctity of scientifically-proven products. “Consumers” are directly addressed in a reported quote from the director of FTC's Bureau of Consumer Protection:

In the press statement, Howard Beales, director of the FTC's Bureau of Consumer Protection, said, “Our message to e-marketers . . . is ‘change your site to comply with the law.’ Our message to consumers is ‘hold on to your money.’ No products have been found effective in preventing, treating or curing SARS.³⁹³

Interestingly, in this debate over bogus SARS products, government agencies, private industries, and their spokespeople are directly quoted through their press statements. Proprietors of controversial websites and “the public” are present elements in SARS discourse but not active in its discursive formation.

Non-government-science praises the *science arena* for its hard work and successes. In its editorial “Severe Acute Respiratory Syndrome: Providing Care in the Face of Uncertainty,” *JAMA* commends the SARS researchers:

The authors deserve enormous credit for developing their comprehensive description of this outbreak so rapidly during a period when health care professionals in Toronto have been overwhelmed with clinical and public health responsibilities.³⁹⁴

It frames the work of these researchers as enormously important during an urgent time. It applauds the medical press and government health authorities for producing and communicating SARS knowledge: “The medical press and government health authorities also deserve considerable credit for recognizing the importance of expeditiously publishing facts about the outbreaks.”³⁹⁵ In that over half of its SARS-related articles are *MMWR* publications, *JAMA* presumably considers these government-science publications authoritative and significant elements of SARS knowledge.

JAMA and *NEJM*, through the use of *war/battle metaphors*, refer to the science arena as hard-working and productive fighters who “combat” the SARS “enemy”:

Global efforts have described this new syndrome with dramatic speed and identified and sequenced the apparent etiologic agents. With expedited efforts to develop a specific diagnostic test for SARS-associated coronavirus, effective infection-control techniques, and concentrated efforts to develop effective therapies and vaccines, there is much reason for optimism. Only time will tell whether the disease will reappear when seasons again change or when the virus is reintroduced by some unexpected vector. To be prepared for the challenge, health care professionals must not forsake their patients, the research community must help provide answers to the unanswered questions, and health care leadership must take the knowledge from that research to rapidly implement whatever strategies might be necessary to *combat* this newly emerging infectious disease (emphasis mine).³⁹⁶

NEJM commends WHO, CDC, and their collaborators as successful in their SARS investigations and responses. Instrumental to this success is the speed of scientific discoveries, of strategy implementation, and of communication and information exchange. It describes WHO and CDC:

The speed with which this novel coronavirus was detected, characterized, and linked to SARS is a tribute to the power of the prompt communication and exchange of information among the World Health Organization collaborating laboratories...³⁹⁷

Additionally, *NEJM* extols the collaborative efforts between WHO, CDC, and national and local health agencies:

Even more impressive than the speed of scientific discovery in the global SARS outbreak is the almost instantaneous communication and information exchange that has supported every aspect of the response. The WHO, the CDC, and national and local health agencies across the globe have disseminated up-to-the-minute information tailored for clinicians, public health officials, health care workers, travelers, household contacts, and many other affected parties. Immediate communication of 'interim' guidance, updated as soon as new information becomes available, has become the norm.³⁹⁸

NEJM discursively constructs itself as a leader in scientific SARS knowledge production due to its speedy communication to readers. As a free service to readers, it electronically

publishes SARS research findings and sends email alerts to those interested in accessing the most up-to-date SARS-related scientific literature.³⁹⁹ It directly advises medical personnel that in the midst of many unknowns, they ought to act with caution, take suspected SARS cases seriously, and stay up-to-date on SARS information via its website.⁴⁰⁰ It describes itself as ahead of traditional processes of scientific knowledge production. *Science* describes international scientific collaboration as commendable and unprecedented:

From the chaos of the widening epidemic has emerged a global-spanning team effort dedicated to finding the culprit as fast as possible. With a little help from modern communication technology, the World Health Organization (WHO) has set up a global network of labs that has largely survived the fierce rivalries traditionally dominating the competitive field of virology.⁴⁰¹

A WHO infectious disease expert is referenced as believing that “international collaborations are essential and would help guarantee that the results are widely accepted.”⁴⁰² The international scientific community is described as the leading force in SARS control: “The stage is set for the international scientific community to respond and to rapidly develop the tools to control this emerging infectious disease.”⁴⁰³ As a point of comparison, Chinese science is presented as uncooperative and incompetent. Systematic problems in Chinese science are discursively constructed as the cause for China's failure to handle the SARS crisis:

...failure, many note, stems in part from systematic problems in Chinese science: a lack of coordination and collaboration, stifling political influence, hesitation to challenge authorities, and isolation from the rest of the world.⁴⁰⁴

Due to China's policy that prohibited alternative views on the coronavirus, Chinese scientists who did identify the coronavirus were not able to seek media attention to alert the international scientific community.⁴⁰⁵ In addition, because the media in China did not

cover its SARS outbreak, many scientists in China were not aware of an emerging problem.⁴⁰⁶ Non-government-science commemorates and profiles individual scientists and public health experts, as well as praises itself and the science arena, excluding China, for its expeditious and internationally collaborative SARS response.

Risk Component of SARS Discourse

Sentences containing the word “risk” in *JAMA*, *NEJM*, and *Science* publications primarily comprise the analyzed risk component. The concept of risk manifests as five main strains. The first is comparable to risk discourse in the government-science social world. *Risky subjects*, *risky spaces and places*, *risky activities*, *risky matter* and *risky business* pose “risk of X” to *at-risk subjects*. *Risky subjects* include SARS cases, specifically stated as “critically ill patients with SARS,”⁴⁰⁷ and “person with SARS,”⁴⁰⁸ health-care workers and travelers from SARS-affected areas. “Wild animals” sold in Chinese food markets, thought to be the animal origin of SARS, are introduced as *risky subjects*.⁴⁰⁹ *Risky spaces and places* include Chinese exotic food markets, areas reporting cases of SARS, and “SARS hot spots,” specifically China, Hong Kong, Taiwan, and Singapore.⁴¹⁰ *Risky activities* include “high-risk procedures”⁴¹¹ and Chinese SARS vaccine development.⁴¹² Due to the lack of standard safety protocols, the Chinese effort to develop a SARS vaccine is a “potentially risky activity.”⁴¹³ SARS vaccines and “respiratory secretions and body fluids of a person with SARS”⁴¹⁴ are considered *risky matter*. SARS vaccines may present potential risks to those vaccinated: “...antibody enhancement of disease is a potential risk of SARS vaccines in humans.”⁴¹⁵ *Risky business* refers to the sale of “exotic animals” in southern Chinese food markets.⁴¹⁶ “Risk

of X” specifically includes “risk of exposure,”⁴¹⁷ “risk of infection,”⁴¹⁸ “risk of contact spread,”⁴¹⁹ and “risk of a super-spreader event.”⁴²⁰ *At-risk subjects* include health-care workers and their families, educational institutions, Chinese food market workers and patrons, and global public health. To counter these risks, public health organizations, specifically CDC and WHO, conduct “risk analysis”⁴²¹ and epidemiological studies on “risk factors.”⁴²² Public health organizations, in other words, conduct research and develop tools, such as defined risk factors, to counter risk. This first strain of risk discourse is similar to the government-science social world.

The second strain situates health-care workers as *risky subjects* who may potentially spread SARS to their families. For example, *JAMA* reports health-care workers as concerned about infecting their families:

Accounts circulating from health care workers who have seen colleagues stricken and who have themselves developed this syndrome are reasons for concern. There is also concern that these workers represent a risk to their families in terms of spreading this nosocomial pathogen.⁴²³

In order to counter this risk, *NEJM* recommends health-care workers self-refer themselves for evaluation:

Because the disease has appeared in many health care workers, they should have a high index of suspicion when fever and features suggestive of SARS develop in them or their family members. In such case, we believe that health care workers should present themselves for evaluation, to avoid putting others at risk.⁴²⁴

In such recommendations, health-care workers are *risky subjects*. If they are to avoid posing risks to others, they must maintain high-levels of suspicion with regards to themselves. In other words, health-care workers, as possible SARS cases, must objectify themselves as potentially contagious. They are, in effect, turning Foucault’s disciplinary

gaze inward, self-surveilling for manifestations of microbial infections invisible to the naked eye.

The third strain of risk discourse introduces the institutionalized exclusion of *risky subjects*, “foreign students and scholars,”⁴²⁵ as a risk countermeasure. *Science* reports: “The University of California, Berkeley...became the first major American university to temporarily bar new students arriving from areas hard-hit by severe acute respiratory syndrome.”⁴²⁶

The fourth strain introduces the concept of a *responsible nation* which fulfills its obligations to global public health. Vietnam is praised for its SARS response: “By dealing with the outbreak openly and decisively, Vietnam risked damage to its image and economy. If it had decided to take refuge in secrecy, however the results might have been catastrophic.”⁴²⁷ Additionally, Vietnam’s priorities are commended: “...the SARS outbreak in Hanoi is a story of what can go right, of public health’s coming before politics.”⁴²⁸ Vietnam risked its national economic and political health to contain its risk to global public health. In the construction of a responsible global biopolitical nation, politics and public health are situated in opposition.

Finally, the fifth strain utilizes the concept of risk in the construction of health-care workers as self-sacrificing, responsible professionals who fulfill duties to patients and to the public’s health. For example, in the acknowledgement section of a *JAMA* research article, the authors commend health-care workers: “We also acknowledge the health care workers in the greater Toronto area who risked their lives and the lives of their families, to care for the patients and control the spread of this disease.”⁴²⁹ Health-care workers and their families are *at-risk subjects*; they are at-risk of contracting SARS.

Additionally, in a *JAMA* editorial, the authors discuss the sorts of responsibilities and duties frontline caregivers assume in a time of uncertainty. Health-care workers have voluntarily chosen a profession in which the duty to serve is not an option. Health-care workers are expected to risk their personal health and families' health, to assume the role of *at-risk subjects*, and, in turn, produce themselves as responsible health-care workers.⁴³⁰

Risky spaces and places, risky activities and *risky matter* highlight the importance of national and human bodily boundaries to risk containment. *Risky spaces and places* are literally nationed, particularly as East and Southeast Asian nations, and implicate particular national bodies as risky. Hong Kong, China, and Vietnam are identified as places where cases of atypical pneumonia were reported and upon which WHO issued its global alert.⁴³¹ “Known exposure to SARS,” as part of the SARS case definition, includes “travel to Hong Kong, China, Vietnam, Singapore, or Taiwan; or visit to a SARS-affected hospital in the greater Toronto area.”⁴³² Crossing national boundaries is threatening. SARS is imbued with agency, as possessing intent: “Communicable diseases do not respect national borders.”⁴³³ Furthermore, *risky activities*—“high-risk procedures”⁴³⁴—and *risky matter*—the “respiratory secretions and body fluids of a person with SARS”⁴³⁵—imbue particular human bodies and their leakages as risky.

The depiction of Chinese food practices positions Chinese human bodies as closer to animals nature and, in turn, origins of risky SARS infection. Close animal-human proximity is dangerously risky. The sale of “exotic animals” as culinary delicacies in Southern China is described as “risky business.”⁴³⁶ *Science*, in “Clues to the Animal Origins of SARS,” publishes Image 4.2.⁴³⁷ In this gruesome image, we see a human figure holding bleeding civet cat by a chain. The dangers of blurring animal-human

boundaries, introduced in government-science's presentation of Jan Steen's *Beware of Luxury*, is continued in the discursive construction of Chinese culture through a scientific lens. *NEJM* reports:

...the proximity of humans to animals in southern China may have caused a recombinant animal virus to become an accidental tourist, crossing species to humans in Guangdong Province, leading to an epidemic among highly mobile and susceptible populations globally.⁴³⁸

Close animal-human proximity is suggested as potentially dangerous, and the description of the SARS-coronavirus as an “accidental tourist” again anthropomorphizes SARS. In “Tracking the Roots of a Killer,”⁴³⁹ *Science* publishes Image 4.3 of an Asian man, garbed in a blood-spattered apron, wielding a large knife, and standing in a cramped space surrounded by dozens of hanging butchered animals. Non-government-science frames China and its culinary practices as exotic, unpalatable to Western senses, and risky to global public health.

Images 4.2 (left) and 4.3 (right): Exemplary Images of China's “Risky Business”

Source: Dennis Normile and Martin Enserink, “SARS in China: Tracking the Roots of a Killer,” *Science* 301, no. 5631 (18 July 2003): 297-299.; Martin Enserink, “Infectious Diseases: Clues to the Animal Origins of SARS,” *Science* 300, no. 5624 (30 May 2003): 1351.



Oppositional Metaphors and Analogies

Non-government-science's SARS discourse, particularly *Science*, utilizes several related oppositional metaphors and analogies: (1) *war/battle metaphor* between public health (as the hero) and SARS (as the enemy); (2) *national security metaphor* with the U.S. (as the threatened homeland), public health (as the national defense), and SARS (as the bioterrorist); (3) *hunting metaphor* with public health (as the hunter) and SARS (as the prey); and (4) *crime mystery metaphor* with public health (as the detective) and SARS (as the elusive and nefarious criminal). (Appendix, Figure A.14 presents elements of these four metaphors in greater detail.)

War/battle metaphors are used throughout non-government-science's SARS discourse. Fighting words—such as “combat,” “battle,” “frontline,” “weapon”—position public health and SARS in opposition. Elements of public health and science are framed as heroic and SARS, as the enemy. For example, SARS is described as the “common enemy”: “The SARS virus shows that when confronted by a common enemy, we can forget our differences and work together fruitfully.”⁴⁴⁰ Additionally, a sinister agency is imbued in SARS as a cellular entity in the following description: “...the coronavirus is the true villain in SARS.”⁴⁴¹ Health-care professionals and the research community are represented as the heroic elements:

...health care professionals must not forsake their patients, the research community must help provide answers to the unanswered questions, health care leadership must take the knowledge from that research to rapidly implement whatever strategies might be necessary to *combat* this newly emerging infectious disease (emphasis mine).⁴⁴²

These heroes wield weapons of combat that include collaboration, scientific discovery, and technology. The “spirit of international collaboration” is discussed as vital to the

scientific understanding and public health control of SARS: “The remarkable spirit of international collaboration among clinicians, researchers, and government agencies needs to continue in an effort to better understand and control this emerging infectious disease.”⁴⁴³ The “speed of scientific discovery and speed of communication” also “reflect amazing achievements in science, technology, and international collaboration.”⁴⁴⁴

Gerberding, CDC’s Director, positions science and SARS in opposition:

The emergence of SARS presents formidable global challenges...If the virus moves faster than our scientific, communications, and control capacities, we could be in for a long, difficult race. In either case, the race is on. The stakes are high. And the outcome cannot be predicted.⁴⁴⁵

SARS is in an urgent and consequential war with heroic science, technology, and government. In other words, the best of human progress is pitted against nature's threats.

In non-government-science’s *national security metaphor*, the boundaries between terrorist threats and threats from emerging infectious diseases, such as SARS, are conflated into similar enemy threats to U.S. national interests. In turn, developing national security defenses is conflated at the discursive level with strengthening scientific capabilities and public health infrastructures. SARS, as a natural threat, is gendered feminine. For example, *Science* publishes an editorial “Lessons from SARS,” penned by Barry R. Bloom, the dean of Harvard’s School of Public Health.⁴⁴⁶ The public health urgency of SARS is a post-September 11th national security threat. He writes:

Infectious diseases do not respect national boundaries. One important implication of September 11, 2001, is that the security of the United States increasingly depends on expertise around the world in identifying potential health threats and in having the scientific capability to address those threats locally...n a world that is increasingly angry at the United States, the lesson here is that it is time to support a global war on disease. The United States should be investing efforts and funds to strengthen the health structures in countries around the world. If we were to help train experts in epidemiology and surveillance, strengthen laboratories in key regions and link them to the best labs in this country and around the world,

and support WHO, we would help to create a true global health network. This investment would protect our country and every other against global epidemics, save millions of lives, and change the U.S. image from one of self-interest to one of human interest.

This aspect of non-government-science's SARS discourse incorporates related metaphors of *war/battle*, *crime mystery*, and *hunting*. In addition, preparing for natural threats better prepares the nation against human-created threats.⁴⁴⁷ SARS is compared to bioterrorist threats and actually deemed a more immediate threat by clinicians.⁴⁴⁸ Comparing SARS and bioterrorism, an expert states: “Mother Nature is by far the worst bioterrorist out there.”⁴⁴⁹ In this example, SARS, as a natural threat and representative of “Mother Nature,” is gendered feminine. *Within these metaphors, public health organizations and health-care workers positioned are as masculine leaders and heroes on the front-lines in a war against the feminine SARS enemy threat. Scientific investigations, collaborative efforts, communication technology, control measures, and patient management are deployed as weapons.*

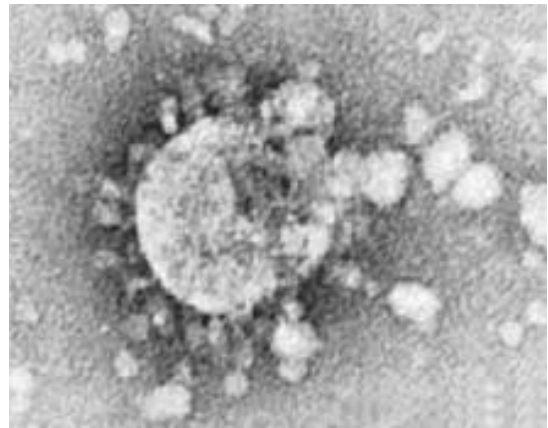
In the *hunting metaphor*, scientists and researchers are literally referred to as “hunters” engaged in “hunts.” As what they “devour,” as the “prey” in a scientific safari, the SARS virus’s genetic code and its animal origins are hunted.

Related to the hunting metaphor, the *crime mystery metaphor* literally refers to scientists and researchers as “detectives” who follow clues and finger culprits. SARS—the virus, its spread, and its origins—is referred to, for example, as “mysterious,” “under suspicion,” and as a “killer.” While scientists and researchers are presented as upstanding, intelligent, and methodical public servants, SARS is positioned as an “accused” and devious criminal. *Science* publishes the following set of photographs (Images 4.4 and 4.5).⁴⁵⁰ Non-government science juxtaposes a photo of CDC’s Director,

authoritatively gesturing in front of an official placard, with an electron microscope photo of the novel SARS coronavirus. This biomedical image functions as evidence of U.S. public health’s leadership in SARS-related research. According to the caption, the coronavirus is “accused.”

Images 4.4 (left) and 4.5 (right): Crime mystery metaphor’s visual images juxtapose a public health authority as disease detective who accuses the criminal SARS virus.

Source: Martin Enserink, “Infectious Diseases: A Second Suspect in the Global Mystery Outbreak,” *Science* 299, no. 5615 (28 March 2003): 1963.



MEDIA ARENA—Mainstream News Media Social World

War on SARS

The *War on SARS* emerges as a key discursive frame. Oppositional metaphors and analogies—crime mystery and animal-human proximity—are subsets. This frame consists of five components: (1) *hero*, (2) *heroic weaponry*, (3) *heroic action*, (4) *enemy*, and (5) *Homeland in need of defense*. Health-care workers, public health organizations and its officials and science experts, the U.S. government’s SARS response, and journalists are presented as *heroes* in the war on SARS. *Heroic weaponry* includes: (1) biomedical and defense technology, (2) public health research, collaboration, and SARS response measures, (3) Homeland Security funding, and (4) media exposés. *Heroic*

action is depicted using a range of war metaphors, including: (1) battle SARS, (2) fight, combat, and attack SARS, (3) defend and protect against SARS, and (4) other military terms, such as “shock and awe,”⁴⁵¹ “seek-and-destroy missions,”⁴⁵² and “declare victory.”⁴⁵³ The *enemy* consists of SARS—a mutated virus, syndrome, and epidemic—the human body’s immune response to SARS infection and China’s SARS cover-up. *Heroes*, through *heroic action* and the use of *heroic weaponry*, combat the *enemy* in defense of the national body and the bodies of its citizens.

At the level of the nation, the *enemy* threatens the nation’s security and public health. The events of September 11th, 2001, contextualize this threat: “The terror attacks of Sept. 11, 2001, alerted us to the fact that commercial airliners can be weapons. The recent spread of SARS reminds us that airliners can deliver far more than passengers...They are a fast and efficient way to share germs.”⁴⁵⁴ According to Lou Dobb’s “The New Threat Among Us,” the nation and the American public live in an everyday state of terror, danger, and risk:

We’re reminded daily of clear and present dangers to this country: global terrorism, the nuclear threats of the two remaining members of the axis of evil, Iran and North Korea, ballooning budget and trade deficits, and the highest number of people unemployed in a decade. But, the greatest potential risk facing our nation is unquestionably the number of emerging diseases that are threatening our public health.⁴⁵⁵

Compared to global terrorism, nuclear threats and domestic economic crises, emerging diseases, such as SARS, pose the “greatest potential risk” to the nation. He positions the “threat of emerging diseases” within a Homeland Security paradigm: “We don’t have a color code for the threat of emerging diseases to this country, but perhaps we should. And there’s no question that the threat level is now elevated.”⁴⁵⁶ SARS is entrenched in national security and terrorist discourses. Furthermore, at the level of the individual

body, SARS infection sets off the body's immune response like "friendly fire" to a "foreign invader": "The serious pneumonia that defines SARS now seems to come from...the body's own immune system violently reacting to this foreign invader. It's almost like friendly fire..."⁴⁵⁷ In effect, the *War on SARS* as a discursive frame analogizes terrorist threats to SARS, and Homeland Security to the human body's immune system defenses. (Appendix, Figure A.16 presents examples of these metaphors in detail.)

The *crime mystery metaphor* is a subset of the *War on SARS* frame. Similar to that in non-government-science, government-public policy's *crime mystery metaphor* refers to scientists and health officials as "disease detectives" who "unravel mysteries" and use "viral clues" to "track" and "trail" *criminals*. As the object of pursuit, SARS—the virus and illness, spread, and origins—can be grouped into three categories, as: (1) a mystery, (2) a suspect and culprit, and (3) a killer and murderer. This metaphor imbues SARS with human agency. For example, SARS is a "miniscule murderer,"⁴⁵⁸ a "strange new virus...[on] its spree, killing hundreds and infecting thousands more,"⁴⁵⁹ and a virus on an "erratic and lethal hop around the world."⁴⁶⁰ SARS is a mystery, a culprit, and almost irrationally homicidal. (Appendix, Figure A.17 presents examples of these metaphors in greater detail.)

As described in mainstream news media, public health scientists research the origins of SARS, an emerging infectious disease, and suspect culinary and food industry practices in China as the source. This concept depicts the *enemy* in the *War on SARS* as closer to nature, dirty and unsanitary, and culpable for the emergence and spread of SARS. Chinese "exotic" culinary habits—such as eating wild civet cats as

“delicacies”—and food market conditions—described as “crowded and dirty,”⁴⁶¹ where “animals are kept in small cages piled on each other,”⁴⁶² and “where merchants commonly sit on stacked cages of exotic animals in food stalls, a setting that could easily allow for the transfer of a virus from animals to humans⁴⁶³—are presented as facilitating the virus’ animal-to-human jump. *Dangerous animal-human proximity* is expressed in mainstream news media’s SARS discourse in a multitude of ways:

- (1) emphasis on Chinese cuisine, eating “exotic species of animals,” as contributing to the origin of SARS⁴⁶⁴;
- (2) live food markets in China described as sites of SARS contagion⁴⁶⁵;
- (3) descriptions of animal and human cohabitation in China (e.g. families breed wild animals in small farms in southern China⁴⁶⁶) as possible SARS origin;
- (4) Chinese government ban on selling wild animals is lifted to the dismay of WHO researchers⁴⁶⁷;
- (5) Chinese food handlers are disproportionately affected infected with SARS⁴⁶⁸;

Boundaries between animals and humans are traversed on several levels. First, the SARS causative agent jumps from the animal body to the human body. Second, in unsanitary and cramped food markets, animals and humans exist in crowded conditions. Third, in small rural farms, farmers and their bred wild animals live in close proximity. Fourth, Chinese culinary habits of consuming “exotic” wild animals, such as civet cats, as delicacies is regarded as suspect and odd practice, possibly responsible for the emergence of the new infectious disease.

This is also constructed through visual images. For example, in *The New York Times* publishes Image 4.6 which presents Chinese food market scenes where humans and wild animals are in close proximity.⁴⁶⁹ Underlying these descriptions is the blurring of boundaries between animals and humans and, in turn, nature and culture, “exotic” and normal, and “dirty” and sanitary. Dissolving these boundaries results in a dangerously close animal-human proximity, in which *animal*, *nature*, *exotic*, and *dirty* are literally

nationed as Chinese and raced-nationed as Asian. The oppositional categories—human, civilized, and sanitary—are then raced-nationed as *not-Asian*.

Image4.6: Exemplary “Dangerous Animal-Human Proximity” visual image

Source: Lawrence K. Altman, "China Lags In Sharing SARS Clues, Officials Say," *New York Times*, 5 August 2003, late edition (East Coast).



China: The Irresponsible Nation-State

This social world’s SARS discourse literally nations irresponsibility as the Chinese government. The Chinese government is criticized for the following: secrecy⁴⁷⁰, misinformation, and underreporting of data⁴⁷¹; imposition of an information blackout to the global public health community and to its own citizens⁴⁷²; hiding SARS patients from WHO investigators; and a political backwardness that facilitates the global spread of infectious diseases.⁴⁷³⁴⁷⁴

Mainstream news media discursively constructs China as the irresponsible nation-state through the use of exposes, editorials, and articles that include interviews with, and quotes from, public health authorities, health-care workers in China, and Chinese citizens. This is a distinguishing feature of this social world’s SARS discourse. For example, in its “To Our Readers” section, *Time* publishes “Making News on the

SARS Front.”⁴⁷⁵ Written in first person plural, it details the activities of how its four reporters broke the SARS story to the world:

...we've...broken news on the SARS front, thanks to Karl and his team. Beijing correspondent Susan Jakes got a signed statement from a retired military-hospital surgeon that at just one hospital in the Chinese capital, there were 60 cases of SARS; the government was still insisting that there were only 19 in all of Beijing. We put that scoop up on our website, dealing the first serious blow to the Chinese Ministry of Health's credibility on SARS...

Huang Yong...visited another hospital and discovered more than 100 SARS patients who weren't supposed to be there. Two weeks ago, he and Jakes reported that just before a delegation from the World Health Organization arrived at yet another hospital, 31 coughing staff members who had caught SARS from patients had been loaded into ambulances and driven around until the inspectors left... Hannah Beech...discovered evidence of how the disease was spreading through the interior of China, when she overheard meetings at which hospital staff members were instructed to hide the extent of the epidemic...⁴⁷⁶

Whereas the media are generally absent in the other social worlds, journalists and, in turn, mainstream news media position themselves as significant in its SARS discourse. It credits itself for exposing China's failures as an irresponsible nation-state to the world. Mainstream news media's relevance relies upon its framing of China's SARS response as a story to be broken. (Appendix, Figure A.18 presents these characteristics and examples in greater detail.)

“How to protect yourself”: Ir/Responsibility at the Individual Level

A major theme in mainstream news media is *how to protect yourself* and, to a lesser extent, *how to protect others from yourself*. Presumably, these articles communicate necessary and timely precautionary advice from public health experts and authorities to the American public, positioned as both *at-risk subjects* and potentially *risky subjects*. Often written in second person “you,” this media directly address the reader and outline expectations for the responsible global biopolitical citizen at the individual level. Five main categories emerge: (1) responsible at-risk subject; (2)

responsible risky subject; (3) responsible traveler; (4) responsible consumer; and, (5) irresponsible risky subject. (Appendix, Figure A.19 presents these characteristics and examples in greater detail.)

The *responsible at-risk subject*'s central priority is to take necessary precautions to prevent outside SARS contagion from infecting the body. This involves the following expectations: engage in self-preventative practices; actively seek SARS-related information; practice self-surveillance; self-refer to health authorities; use necessary protective equipment; and, practice personal hygiene. *Responsible risky subjects* are expected to fulfill similar expectations; however, the focus is on controlling the spread of infection from self (*risky subject*) to others (*at-risk subjects*) through voluntary quarantine, if necessary. Mainstream media discursively construct these responsibilities by posing questions using first person "I," as inquiries readers should ask themselves, and by directly addressing the reader using second person "you." For example, *Time* organizes its article, "Could America Be Next," into questions readers ought to ask themselves, such as "Should I be worried?" "Should I wear a surgical mask?" and "Should I cancel my next trip to Asia?"⁴⁷⁷ Reader should to ask these questions and concern themselves with the answers. They are addressed as both *at-risk subjects*, who should ask "How can I protect myself?", and as potentially *risky subjects*, who should ask "I've just returned from Asia. Should I stay home for a while?"⁴⁷⁸

Responsible travelers, particularly Americans intending to depart the U.S. for international destinations, are expected to avoid and/or reduce travel-related risks, to be prepared for and willingly participate in SARS risk countermeasures, and to use necessary protective equipment. Mainstream news media discursively construct these

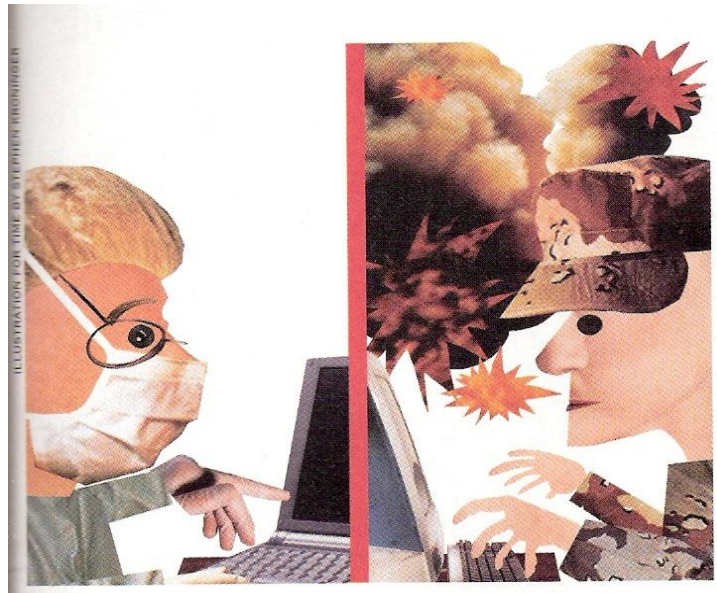
expectations by directly addressing the reader through second person “you” and posing questions, through first person “I,” that readers ought to ask themselves. These articles are published in sections specifically devoted to travelers and, in the case of *Los Angeles Times*’ “Healthy Traveler” column, travelers concerned about staying healthy.⁴⁷⁹

These articles notify readers of travel-related notices—issued by CDC, WHO, and U.S. State Department—such as travel advisories, travel warnings, lists of SARS-affected places, places travelers should avoid or take precautions in while visiting. SARS-related travel events are also reported, such as the following: televised coverage of a plane quarantined at a California airport due to fears that several passengers arriving from Hong Kong were infected with SARS⁴⁸⁰; cruise ships rerouted through Asia to avoid ports in mainland China and Hong Kong⁴⁸¹; refusals by airplane crews to fly with health-care workers on board due to fears that they carried SARS infections⁴⁸²; and Princess Cruises’ cancellation of all cruises to Asia.⁴⁸³ In addition, travel features report risk countermeasures presumably pertinent to its readers, such as the following: travelers from SARS-affected areas may be quarantined or sent to hospitals⁴⁸⁴; airports, airlines and cruise lines disinfect surfaces, screen passengers for travel histories and symptoms via questionnaires,⁴⁸⁵ quarantine passengers during incubation periods⁴⁸⁶; Cathay Pacific distributes face masks to passengers, mandates cabin crew wear face masks, and screens passengers’ temperatures before boarding flights.⁴⁸⁷

Responsible travelers should actively seek SARS-related information through internet resources such as online travel guides, forums, and discussion boards.⁴⁸⁸ *Time* publishes Image 4.7 that features two human figures sitting across from each other at computers. The figure on the left is garbed in a surgical cap, latex gloves, face mask, and

surgical gown; the figure on the right is uniformed in military fatigues with smoke and explosions in the background.⁴⁸⁹ This image accompanies an article that advises travelers to seek SARS-related information through internet resources; “With war raging in Iraq, a new virus emerging in Asia and terrorism spreading around the world, there's a new premium on up-to-date information.”⁴⁹⁰ The face mask symbolizes SARS risk, and SARS risk is compared to the risks of war and terrorism; this imagery further evidences the *War on SARS* as a discursive frame in SARS discourse.

Image 4.7: Visual image that exemplifies “Ir/Responsibility at the individual level” visual image
Source: Lucy Izon, "Youth Beat; It's Tips At Your Fingertips With Online Postings," *Los Angeles Times*, 27 April 2003, home ed., L.9.



Responsible travelers should also consider joining the International Association for Medical Assistance to Travelers:

With the emergence of severe acute respiratory syndrome, medical issues have become an even greater worry for many travelers...What would you do if you had a serious medical concern in a country where you couldn't speak the language? One solution is to contact a doctor through the International Assn. for Medical Assistance to Travelers, a network of physicians who speak English, who have had training in North America and who have agreed to accept established fees...⁴⁹¹

Finally, responsible travelers are to consider donning protective equipment to reduce their risks of SARS infection. The *New York Times* quotes a WHO official:

Dr. David L. Heymann, the executive director for communicable diseases at the WHO, said that complete protection was very difficult and suggested that if people 'want to really fly and be protected, get yourself goggles, a mask and gloves.'⁴⁹²

Wearing face masks, latex gloves, and goggles is recommended by this public health authority as practices of self-prevention.

Mainstream news media position readers as potential dupes in SARS scams and presents itself as educating the American public to be *responsible consumers*. They should approach with skepticism products marketed as SARS-cures or as having SARS-preventative powers. In researching bogus marketing claims, they should consult the websites of public health organizations. These responsibilities are discursively constructed in articles that report and caution readers of SARS scams and draw from the expertise of federal government officials through quotes and/or references.⁴⁹³

Finally, irresponsibility at the level of the individual is embodied by SARS cases. The *irresponsible risky subject* fails to control the spread of infection from self (risky subject) to others (at-risk subjects). Index cases and first cases in U.S. and Canada embody the realized risks of SARS having crossed national borders separating East and West. At this level, *risky subjects* also fail to control the spread of infection from *risky spaces and places* to *at-risk spaces and places*. These cases are often identified by name and gender. They are nationed, but not explicitly raced. However, through markers, such as names, they are implicitly raced. For example, *Time* narrates an origin story, of sorts, that explains how the SARS outbreak came to be in North America:

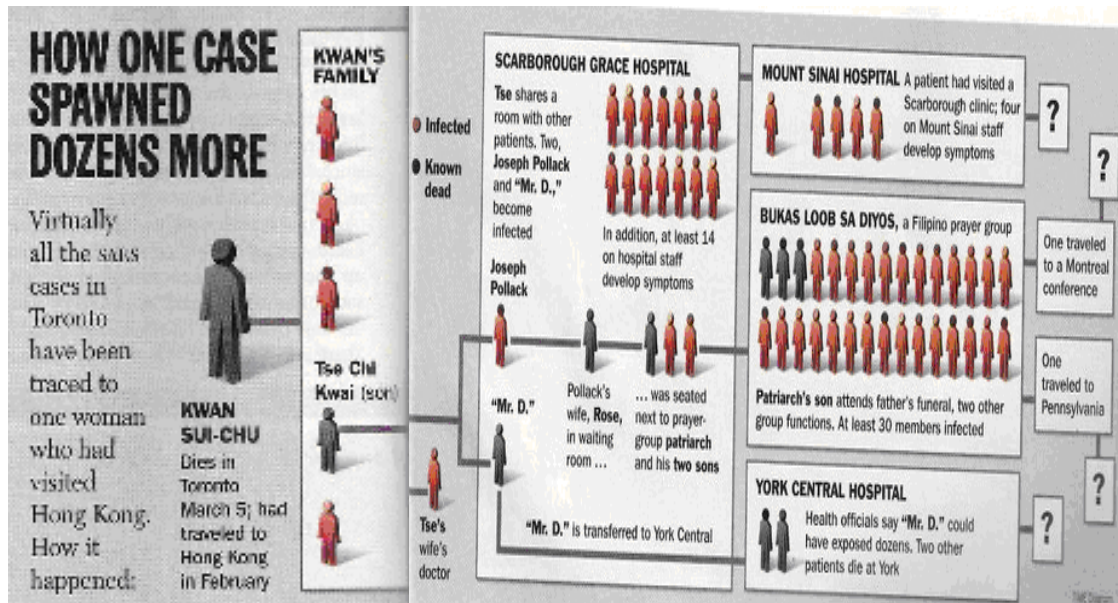
The story begins with an elderly Toronto couple who spent 10 days in Hong Kong. Kwan Sui-chu, 78, and her husband began a visit to the city on Feb. 13 and stayed one night at the Metropole Hotel. Kwan almost certainly had a chance encounter there with a retired Chinese nephrologist named Liu Jianlun, who, it turns out, had *SARS*. After her return to Toronto on Feb. 23, Kwan passed the disease to members of her family, including her son Tse. At Scarborough Grace, he was placed in a corner bed of the E.R.'s observation ward. Next to him was Joseph Pollack, 76, who had been complaining of an irregular heartbeat. That night Pollack almost certainly got *SARS*, as did another man in the room, a coronary patient whom authorities refer to as Mr. D., 77. Both Pollack and Mr. D. would infect many others.⁴⁹⁴

The origin of *SARS* in Toronto is also visually represented in Image 4.10 with the heading, “How One Case Spawned Dozens More: Virtually all the *SARS* cases in Toronto have been traced to one woman who had visited Hong Kong. How it happened...”⁴⁹⁵

This index case is gendered through the use of pronouns, “her,” and familial relationships, “her husband.” Described as an “elderly Toronto couple,” they are nationed Canadian. She is not explicitly described as Asian-Canadian; however, by identifying this *SARS* case by name, *Time* has implicitly raced Kwan Sui-Chu as of Asian descent. At the same time, Hong Kong is framed as a *risky place*. *Risky spaces and places* pose *SARS* risks to *at-risk spaces and places*. Described as the “one case [that] spawned dozens more,” Kwan is the embodiment of *SARS* spread across national borders.⁴⁹⁶ She is the *irresponsible risky subject*, the “one woman who had visited Hong Kong” to whom “virtually all the *SARS* cases in Toronto have been traced.”⁴⁹⁷

(Appendix, Figure A.19 presents examples of these concepts in detail.)

Image 4.8: “Ir/Responsibility at the individual level” visual image
 Source: Daffyd Roderick, Cindy Waxer, and Leigh Anne Williams, *Time* 161, no. 18 (5 May 2003): 56.



Biopolitical Subjectivity in the “New Normal”

A distinguishing characteristic of mainstream news media’s SARS discourse is the discursive construction of *risky*, *at-risk*, and *not-risky biopolitical subjectivities*. In the other social worlds, *risky and at-risk subjects* are present human entities, but they are not active in the production of SARS discourses. Only in mainstream news media are the experiences and concerns of *risky, at-risk, and not-risky subjects* presented from a first-person perspective. This perspective is put forth in two ways. First, journalists pen editorials and opinion pieces in which they narrate their own personal experiences as *risky, at-risk, and not-risky subjects*. Second, articles draw from interviews with, and include quotes from, individuals about their experiences. This is significant, as it provides insight into biopolitical subjectivities during times of public health urgencies and risky uncertainties. Individuals, framed as *risky*, attempt to prove otherwise through

self-identifying as *not-risky*. These subject formations are raced, nationed, and gendered and, at times, employ visual technologies.

Emerging as a theme is the recognition, verging on resignation, of a “new normal.”⁴⁹⁸ In this “new normal,” constructions of SARS risk, impacts of which pervade even the most mundane of everyday life, are tied to subject formations of *risky* or *at-risk*, of *responsible* or *irresponsible*, and of an almost schizophrenic grey zone where one’s risk identity is uncertain and in flux. *U.S. News & World Report’s* cover story on SARS, “SARS Hits Home,” describes how SARS risk countermeasures have impacted everyday life in Toronto. It starts with the following anecdote:

A month ago it would have been no big deal to find a kid who was afraid of going to the dentist. But Andrew Rankin's fear is new, and deep. It's prompted by *SARS*, the strange and powerful new illness that has killed more than 270 people worldwide.

When he visited the dentist at Toronto's Hospital for Sick Children last Wednesday, 9-year-old Andrew was met at the hospital door by a nurse in mask, gown, and gloves who asked whether he had a cough or a fever. He had to put on a mask himself, then wash his hands with an alcohol gel. He didn't mind. "He didn't want to come today," said his mother, Kelly Rankin. "*SARS* was the part that terrified him the most"--more than dentistry, more even than the heart surgery that had been scheduled for April 24 but was postponed because *SARS* has forced the hospital to cancel all elective surgery.

This is life in the age of *SARS*, or severe acute respiratory syndrome, when a routine dental visit becomes a test of gumption. In the last month, no part of Toronto life has been untouched by the city's battle against *SARS*, from doctors' offices and schools and churches to popular Asian restaurants like Mandarin, which now advertises on the radio that its staff is *SARS* free. More than 7,000 people have been quarantined in their homes or in hospitals. "The problem is here to stay," Paul Gully, Canada's senior director general of population and public health, told Canadians last week. "We have to learn to live with it..."

...Even more troubling is the growing recognition that the extraordinary measures used in Toronto could soon become the "new normal" in the United States, too, if the mystery bug persists.⁴⁹⁹

In the above excerpt, a nine-year-old boy fears an impending dental visit. His trepidation is due not to pain-inducing drills and surgical instruments, but to the looming figure clad

in protective equipment. His mother relays that young Andrew fears SARS even more than his upcoming heart surgery, a procedure that actually had to be cancelled due to the SARS outbreak's impact on Toronto hospitals. The *at-risk subject*, in this instance, is clearly depicted as an innocent victim—a child, with a heart problem, whose once amusing childhood fears of the dentist have been violently displaced by the global threat of SARS. He bravely and responsibly deals with the SARS threat by masking himself and disinfecting his hands. In contrast, Asian restaurants, perceived as *risky spaces and places*, proactively identify themselves as “SARS free” in radio advertisements. While the boy and his mother are not explicitly raced or nationed, they are, in contrast to the Asian restaurant, raced-nationed as *not-Asian*. A public health authority is then quoted, in relaying to the Canadian public, that “The problem is here to stay... We have to learn to live with it.”⁵⁰⁰ This is the “new normal,” where infectious disease threats, like SARS, will continue to terrify innocent but brave children, and Asian-raced spaces will have to declare SARS-free identities.

In “Breathing Easy—Until We Go Home Again,” *Newsweek* publishes a first person account of an American mother's experiences in Singapore:

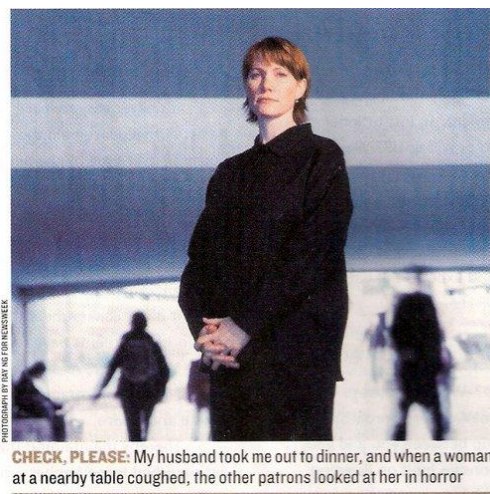
A few weeks ago, my daughter turned 3. I spent the days prior to her birthday scouring stores--not for a particular Barbie doll or teddy bear, but for an N-95 respirator. I'm not a neurotic mother, I'm just trying to protect my daughter and the rest of my family from severe acute respiratory syndrome, also known as SARS. We moved to Singapore last year for my husband's job.....Even though I felt ambivalent about the actual risk of contracting SARS, I minimized my trips outside the house. When I did go out, I carried baby wipes to wash my hands, since the Centers for Disease Control has warned that it may be possible to pick up SARS by touching contaminated objects like elevator buttons...⁵⁰¹

Again, in this excerpt, a young child—the columnist's three-year-old daughter—is depicted as an innocent victim. Her mother, as the protector of her family's health from

SARS risk, shops not for baby dolls or stuffed animals for her daughter’s birthday present but for an N-95 respirator, hardly child’s play. The columnist depicts herself and her family as *at-risk subjects* in a *risky space and place*, Singapore, where officers stop and screen everyone’s temperatures outside her residence. Additionally, she provides readers insight into choices she makes, with regards to risk countermeasures, while “ambivalent about the actual risk of contracting *SARS*.”⁵⁰² As a *responsible at-risk subject*, she heeds public health authority’s warnings, minimizes her trips outside the house, and carries hand disinfectants. The *risky space and place* is clearly nationed as Singapore. The *at-risk subjects* are nationed as Americans living in Asia, and are raced not only as *not-Asian* but, as white. This column is accompanied by a photo (Image 4.9) of the columnist:

Image 4.9: Visual image of “Biopolitical subjectivity in the ‘new normal’” race-nations and genders at-risk subjects as non-Asian, American, and woman.

Source: Melissa Hinebauch, “Breathing Easy—Until We Go Home Again,” *Newsweek* 141, no. 19 (12 May 2003): 20.



Time’s “Making News on the SARS Front”⁵⁰³ details how its reporters uncovered China’s SARS cover-up. Written in first personal plural by the journalists, it provides further insight into the mindset of biopolitical subjects in the midst of uncertain risks.

"For those of us living in Hong Kong," says Karl, "the disease has permeated our lives not just as a biological threat but, ubiquitously, as a psychological and spiritual malady. By now, much has been written about the disposable alcohol swabs we use obsessively to wipe our hands (I have a stack on my desk beside me), the surgical masks we wear and the public-health announcements advising against, among other things, handshakes...

Our social lives have been drastically curtailed. But those impositions--concerts canceled, dinner parties postponed, schools closed--long ago became the status quo."⁵⁰⁴

The reporters position themselves as *at-risk subjects*, nationed American, living in a *risky space and place*, nationed as China. They responsibly practice self-prevention—disinfecting hands, wearing face masks, following public health recommendations and avoiding handshakes. This new “status quo”⁵⁰⁵ or “new normal” is structured by an uncertainty about risk. Activities, that were once part of everyday life, are now questioned for their “real or imagined risk”⁵⁰⁶:

But the larger issue is the mental fatigue that attends living in a hot zone. The questions raised alter the rhythm of life itself. Do you dare dine communally, as is the custom here in Hong Kong? Is it safe to work out at the gym? If you do work out, is it advisable to take a shower in the clubhouse afterward? Do you kiss your children? The most quotidian of tasks require a moment of hesitation before you decide to take whatever real or imagined risk is implied.

In this excerpt, the questions largely frame the speakers as *at-risk subjects*—essentially, *how do I avoid catching SARS from others?* However, “Do you kiss your children?” positions the children as *at-risk* and the speakers as potentially *risky*. What emerges is an uncertainty over one’s identity as either *at-risk*, or *risky*, or both, or neither.

In “Braving War and SARS to Meet in Vegas,” the journalist describes his flight:

I coughed on the flight out, though I was trying as hard as I could to make it one of those nonchalant “just a cold -- don't even know where Hong Kong is” coughs. No need to quarantine the plane, really. The gentleman in the aisle seat looked me over, not quite convinced.⁵⁰⁷

The journalist's identity as *not-risky* is considered suspect by fellow passengers or, at least, perceived as such. He is self-conscious about his cold symptoms, that they mark him as *risky* and dangerous. His cough, a coded message that he doesn't "even know where Hong Kong is...,"⁵⁰⁸ declares himself as *not-risky* and, in effect, race-nations *risky subjects* and *risky spaces* as Asian. If he doesn't "even know where Hong Kong is," then he couldn't by any means have ever traveled there or have any connections. He continues: "Once in SARS-wary Las Vegas, my cabdriver...told me the whole convention might need to be quarantined if so many as one Asian visitor fell sick."⁵⁰⁹ Again, the source of risk, the *risky subject*, is raced-nationed Asian.

In "SARS casting a pall over Cannes deals," *Los Angeles Times* covers SARS's impact on the Cannes Film Festival.⁵¹⁰ The article draws from interviews with, and includes quotes from, individuals who feel unjustly framed as *risky subjects*.

Karen Wu, from Good Film Co. in Taiwan, said that at least six Taiwanese film buyers canceled their trip at the last minute. Wu said she and her colleagues were so worried they would be banned from the festival that they voluntarily went to hospitals in Taiwan and got chest X-rays to prove they were not infected...

Once in Cannes, her Taiwanese group had reserved a hotel dining room for a banquet. The hotel called to cancel the party at the last minute, saying there was no room. Wu suspects a fear of SARS led to the cancellation.

Nam In-Young, a programmer for the Women's Film Festival in Seoul, Korea, said the concerns about SARS are out of control. She says she believes Asians have been unfairly singled out as carriers of the disease even though Toronto has had an outbreak too.

"People assume that all of Asia is covered with the virus," she said. "People look at me funny and I feel like saying to them, 'I'm Korean. I'm not Chinese.' It doesn't make any sense. It's all paranoia."⁵¹¹

The two interviewees, a Taiwanese woman and a Korean woman, address perceived discrimination by the Festival and Cannes hotels. Nam In-Young's defense—"I'm Korean. I'm not Chinese."⁵¹²—evidences how *risky subjects* are raced Asian, and how

being “not Chinese” is invoked to reject this label. Furthermore, in order to avoid being unjustly labeled as *risky subjects*, Karen Wu and colleagues attempt to assert their identities as *not-risky subjects* via voluntary chest X-rays. In this “new normal,” where risks are uncertain, and the assignment of risk is raced, nationed, and gendered, visual technology is employed to make visible the visceral—to assert one’s identity status as SARS-free and *not risky*.

Face Masks and Un/Masking

As central symbols and themes in mainstream news media’s SARS discourse, “face masks” and the metaphor of “un/masking” are deployed in several ways: (1) as ironic article titles; (2) as emphasized elements in photograph captions; (3) as risk countermeasures put forth by public health authorities, governments, labor, and industry; (4) as objects of technophilia and technophobia; (5) as striking visual cues described by journalists and interviewees; and, (6) as the main visual symbol of SARS discourse.

First, the metaphor of un/masking is ironically employed in article titles. *Time* titles its expose on China’s SARS cover-up as “Unmasking a Crisis.”⁵¹³ The reporters expose the truth behind the government’s campaign of misinformation by “unmasking” China’s so-called façade of lies. Masked subjects are thus situated as secretive and devious. *U.S. News & World Report*’s article, “A City Masked in Fear and Distrust,”⁵¹⁴ refers literally to the deployment of face masks by Beijing residents after their government finally acknowledged a SARS problem. Finally, *Los Angeles Times*’ article, titled “Cautionary Cover-Up,”⁵¹⁵ associates face masks with China’s “cover-up” and as protective equipment against bioterrorism and other airborne diseases. From just these three article titles, face masks are associated with: the SARS crisis; a secretive and inscrutable

Chinese government; the fear and distrust that Beijing residents have of each other and their government; the conflation of bioterrorist agents and SARS; and journalists (nationed American) as investigators who “unmask” lies from truth.

Second, in photograph captions, masks are emphasized as key elements in visual images. Plenty of mainstream media’s SARS images include masked human figures, but they are not always highlighted as such in the captions. This is significant, as these photos are not simply objective documents of public health urgency. Rather, they are constructed, and part of this construction is in how captions describe the visual images. The following captions actually emphasize masks as central elements in the photographs. Many of the captions are structured in two parts, with the first in loud capital letters:

- CAUTIOUS: Takeo Hayashi, who took no chances during a flight from Asia, arrives in L.A. still wearing his mask.⁵¹⁶
- CAREFUL: A worker in a Toronto mall wears a facemask.⁵¹⁷
- PREVENTION: Masks hide countless faces in Hong Kong as virus fears run rampant.⁵¹⁸

Several themes emerge as important in these captions. First, masks are associated with self-prevention practices: “CAUTIOUS,”⁵¹⁹ “CAREFUL,”⁵²⁰ “COVER,”⁵²¹ and “PREVENTION.”⁵²² Second, mask-wearing, as an act of self-prevention, is also a proactive offensive act, “FIGHTING FLU”⁵²³ and “FACE OFF,”⁵²⁴ as well as an everyday act of survival, “CARRYING ON.”⁵²⁵ Third, masks are associated with fear and anxiety: “HEALTH SCARE,”⁵²⁶ “FACES OF ANXIETY,”⁵²⁷ “WARY,”⁵²⁸ and “PANIC BUYING.”⁵²⁹ Additionally, as a visual representation of Taiwan’s celebratory end of SARS transmission, the caption leads: “UNMASKED.”⁵³⁰ To be *unmasked* works literally and symbolically to represent a freedom from SARS risk. Finally, “A

TUTU...AND A MASK”⁵³¹ intends to juxtapose the femininity and artistry of ballet with the metaphoric and literal meanings of masks.

Additional captions are structured without the immediate attention-grabbing intent of all capital letters:

- A public-health fashion? The many faces of SARS.⁵³²
- SARS-spooked by stylish, a Hong Kong woman guards against a deadly virus.⁵³³
- Globe-trotter: Fear of SARS prompts a Lufthansa crew to wear masks in the Hong Kong airport.⁵³⁴

These captions highlight face masks as new fashion accessories in Hong Kong, specifically mentioned as worn by women. The caption, “The many faces of SARS,” underscores un/masked faces as a central symbol in SARS discourse. Face masks are also emphasized as self-prevention tools used by travelers, commuters, health-care workers, and others in public spaces, such as concertgoers.

Third, face masks are addressed in news articles as tools for infection-control.

Public health authorities, industry and union spokespeople, and governments are usually referenced and/or quoted. The following are examples:

- Dr. Arnold Monto, professor of epidemiology at the University of Michigan’s School of Public Health, says this offers hope the outbreak can be contained by such measures as facemasks, quarantining and reverse pressure rooms.⁵³⁵
- The U.S. Centers for Disease Control and Prevention in Atlanta has said that emergency room patients with suspected SARS should be given masks for the benefit of fellow patients and health care workers. The idea is to minimize a patient’s ability to disperse infectious droplets through coughing, sneezing and even speaking.⁵³⁶
- Anyone suspected of having SARS should wear a surgical mask around others, and visitors should wear masks, Meyers [medical director of assessment and epidemiology for the Orange County Health Care Agency] said. After having contact with a SARS patient, people should wash their hands and disinfect items the patient has touched.⁵³⁷

In these excerpts, mask use is advised for both *risky* and *at-risk subjects* by public health authorities, is requested by labor unions, and is mandated by certain governments. *Los Angeles Times* provides a brief history of surgical masks as tools for infection-control. It notes that the “precedent for self-protection with masks dates to the great influenza pandemic of 1918, when people in the street covered their noses and mouths with fabric. In fact, San Francisco city leaders fined and jailed anyone who wasn’t wearing one.”⁵³⁸ They were originally designed to protect ill patients from the germs of health-care workers but are now also used to “contain infection,” such that the patient’s “microbe-loaded droplets” are caught before dispersing in the air.⁵³⁹ The discursive construction of face masks, in other words, as a technology of SARS-infection control is legitimized. It indicates an adherence to technology, a belief that science and its tools are useful against threats from Mother Nature and unscrupulous political regimes.

Fourth, masks are objects of technophilia and technophobia. As objects of technophilia, face masks, now part of daily attire in areas affected by SARS, are commodified as in-vogue fashion. Face masks, “many of them boldly and stylishly decorated...,” “are now sported everywhere on the streets of Hong Kong.”⁵⁴⁰ They are as “essential as shoes”⁵⁴¹ and “have become something of a fashion statement, bearing colorful prints or designer logos.”⁵⁴² *Newsweek* quotes a marketing executive in Hong Kong:

“I like wearing masks because they can hide my pimples and make me look mysterious. I think people in Hong Kong are looking better now that they’re wearing masks.” Marketing executive Jane Chan, on shrewd retailers in Hong Kong selling stylish face masks so residents can fashionably combat the spread of SARS...⁵⁴³

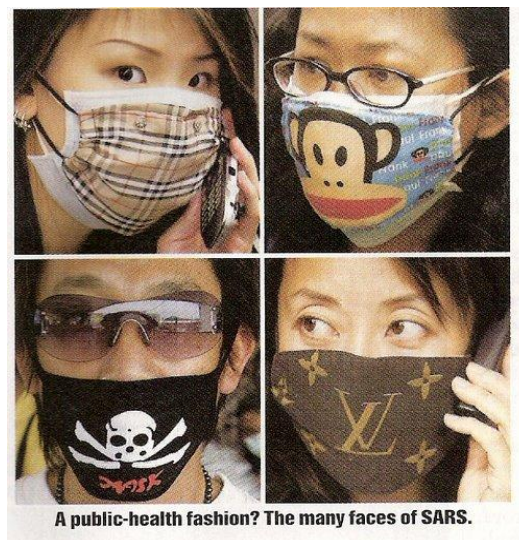
In this excerpt, the war metaphor of *combating SARS* now incorporates face masks as *weaponry*, as fashion accessory, and as part of an *at-risk subject's* daily infectious disease-combating uniform. In its cover story, “The Mystery of SARS,” *Newsweek* narrates SARS-related snapshots around the world, from Toronto to China, from Britain to the United States:

In Hong Kong, only about 100 people turned up to ogle Qianlong porcelain at a Sotheby's cocktail party—the first major social event in weeks. The party normally draws hundreds in Manolos; last week's guests accessorized with paper masks.⁵⁴⁴

The journalist analogizes high fashion heels as the must-have women's accessory to face masks as the new must-have. It is reported that the “only luxury goods flying off shelves are fake Louis Vuitton surgical masks.”⁵⁴⁵ Contributing to this discursive construction are visual images of mostly human figures, such as Image 4.10, accessorized and geared in designer face masks, mostly raced-nationed-gendered as Asian women.⁵⁴⁶

Image 4.10: Face masks and un/masking visual image

Source: Bernadine Healy, “Tyranny of the ‘or’,” *U.S. News & World Report* 134, no.7 (19 May 2003): 57.



Though seemingly incongruous with technophilia's exuberant and hopeful embrace of technology, a similar hopeful intensity drives an insatiable demand for masks. Mainstream news media present a narrative of masks as technology to contain bodily risks, and as consumer products in short supply and in frenzied demand. The following excerpts exemplify these descriptions:

- All it took was the televised image of one American Airlines jet stuck on the tarmac at the San Jose, Calif., airport last Tuesday—isolated because of fears that four passengers on the flight from Tokyo had come down with the mystery disease SARS. The people turned out to be fine. But hardware stores quickly sold out of dust masks.⁵⁴⁷
- In Monterey Park, a Los Angeles County city with a large Chinese American population, many people want to buy surgical masks. Kenny Ha, manager of a Sav-On drugstore, said one or two customers a day walk in wearing the masks and that he has sold out the store's stock of 100 in two weeks.⁵⁴⁸
- The day before our departure for Hong Kong, my colleague and I visited eight L.A.-area pharmacies between us before finding one that had not sold out of face masks.⁵⁴⁹

News articles depict mad mask rushes from Hong Kong to Beijing, Monterey Park to Palo Alto. The mask as a “personal weapon against the coronavirus” in a “perceived battle for survival,”⁵⁵⁰ is discursively constructed through descriptions of depleted mask supplies, and through interviews with, including quotes from, overwhelmed purveyors and disappointed shoppers.

The effectiveness of face masks in controlling SARS infection is with debate. *The New York Times* reports medical tips to avoid SARS infection: “The tips include washing hands regularly with soap,...avoiding crowded places with poor ventilation and keeping windows down for fresh air when in taxis. Less clear is whether wearing a mask provides a significant benefit.”⁵⁵¹ Even with its usefulness in question, masks are still employed by *at-risk subjects*.

[Hong Kong's] Dai Kuang Wah Herb Market still does a brisk business, but owner Mai Hoang and her staff now work behind surgical masks and gloves. She knows the garb is probably unnecessary, but her rationale isn't hard to fathom. As she puts it, "You never know."⁵⁵²

Underlying this "better safe than sorry" mentality, albeit borne from desperate and panicked circumstances, is a hopeful faith in science and technology.

This technophilic construction involves the commodification of masks as weapons employed by both *responsible at-risk* and *risky subjects*. It situates face masks as fashion accessories that proverbially "make the outfit," i.e. the new daily uniform in this *war on SARS*. Public health and government health authorities legitimize their use by recommending and/or mandating face masks for SARS patients, close contacts, health care workers, and visitors to Saudi Arabia from Singapore, China and Vietnam.⁵⁵³ At the same time, the effectiveness of face masks for individuals who are not SARS patients, close contacts or health-care workers, is questioned. Regardless, mainstream news media's SARS coverage emphasizes, through narratives and interviews, the intense demand for face masks in the U.S. and in Asia.

At the same time, face masks are objects of technophobia. In articles written in the first-person, the oppositional binary of the masked face versus the naked face cues the reader to the speaker's feelings of fear versus relief. In *Newsweek's* "Breathing Easy—Until We Go Home Again," an American woman, who introduces herself as a wife and mother living in Singapore, writes about her experiences during the country's SARS outbreak. Upon retreating from her home in Singapore to the United States, she expresses "relief to put away the disinfectant wipes, the face masks and the fear..."⁵⁵⁴ In other words, she metaphorically *unmasks*. She discards the symbolic encumbrance of fear and is now free to "breathe easy."

In *Los Angeles Times*' "Fear Goes Global," the journalist employs the analogy, *masked face : fear :: naked face : relief*. Written in the first person by a reporter traveling from Los Angeles to Hong Kong to report on SARS, the article uses masks as striking visual cues throughout the writer's trip:

The Tuesday night before last, I caught a transpacific flight out of LAX. The flight attendants were wearing face masks. So was I. This felt a little silly. It felt less silly when, changing planes in Taipei, a public health worker stuck thermometers in our ears after we got off the plane. We were nearing ground zero...

...all the airport taxis drivers [in Hong Kong] were wearing masks. One of them took us to our plush but now reasonable priced—and largely empty—hotel, where masked personnel checked us in. I was beginning to wonder whether I was even supposed to sleep in my mask when a masked maid confided that the staff had been ordered to wear masks so as not to scare any guest who might have become afraid of naked faces.⁵⁵⁵

The journalist frames in close-ups the myriad of masked faces he encounters in his travels from the West to the Far East. The Hong Kong hotel staff directive—"ordered to wear masks so as not to scare any guest who might have become afraid of naked faces"⁵⁵⁶—juxtaposed with the following science-fiction/horror imagery:

It was beginning to feel as if we were in a low-budget science fiction movie. There were minimal special effects—cheap surgical masks—and a monster that you couldn't see: the virus. Even without a menacing soundtrack, it was hard to escape the sense that something was out there. Lurking. Waiting to attack.⁵⁵⁷

situates masked faces as harbingers of a technophobic future, that perhaps has already arrived as the "new normal." He depicts a moment when what is considered human and what is considered technology have merged to the point where the naked, unmasked human face somehow is terrifyingly unnatural and abnormal. The boundaries between natural human biology and technology have blurred. That he frames this scenario as

frightening, contributes to a technophobic SARS discourse which prominently features masks and metaphors of un/masking.

Deviating from other social worlds, mainstream news media frequently use *otherworldly and apocalyptic imagery* in its SARS discourse. The SARS-associated coronavirus, as the causative agent, is described as an “alien in a sci-fi film,”⁵⁵⁸ an “exotic” “creature”⁵⁵⁹ bent towards planetary destruction, an invisible terror akin to childhood boogie monsters,⁵⁶⁰ and a mutant threat to Earth.⁵⁶¹ It is neither inanimate, nor characterized as human. Rather, situated in the realm of the supernatural, science fiction, and horror, it is definitively animate and non-human. It represents humanity’s fear of an uncontrollable, oppositional, and otherworldly other. (Appendix, Figure A.20 presents examples of these elements in greater detail.)

The atmosphere of the SARS outbreak is depicted with similar imagery. It is described as “surreal,”⁵⁶² “eerie”⁵⁶³ and nightmarish,⁵⁶⁴ as resembling a “Michael Crichton thriller”⁵⁶⁵ and a “low-budget science fiction movie.”⁵⁶⁶ The atmosphere is otherworldly, like being “on Mars or on a new planet,”⁵⁶⁷ with “macabre”⁵⁶⁸ accoutrements, such as face masks and latex gloves, as central symbols. Additionally, SARS is mentioned in reviews of *Terminator 3* and *28 Days Later* to ground the films in real world relevance.⁵⁶⁹ In its review, “How Does It All End Again,” *Time* references real world epidemics: “[*28 Days Later*] makes the dread of a killer virus contagious: viewers may feel they have come down with a case of secondhand SARS...”⁵⁷⁰ SARS is alluded to as a science fiction apocalyptic nightmare come true.

PUBLIC POLICY ARENA—Government-Public Policy Social World

The 12 sampled Congressional Hearings are listed in Figure 4.3 by Congressional Hearing date, Congressional Committee, and Hearing subject. The subject or headline is provided by LexisNexis Congressional.

Figure 4.3: Date, Committee, and Subject of Sampled Congressional Hearings

Congressional Hearing Date	Congressional Committee	Subject
April 4, 2003	House Government Reform Committee	Project Bioshield ⁵⁷¹
April 7, 2003	Senate Health, Education Labor and Pensions Committee	Severe Acute Respiratory Syndrome Threat (SARS) ⁵⁷²
April 8, 2003	Senate Appropriations Committee	FY2004 NIH Budget ⁵⁷³
April 9, 2003	House Committee on Government Reform	SARS Threat: Is the Nation's Public Health Network Prepared for a Possible Epidemic ⁵⁷⁴
April 29, 2003	Senate Committee on Health, Education, Labor, and Pensions	Severe Acute Respiratory Syndrome (SARS) ⁵⁷⁵
May 2, 2003	Senate Appropriations Committee	Severe Acute Respiratory Syndrome (SARS), Special Hearing ⁵⁷⁶
May 5, 2003	House Committee on Government Reform	Improving Public Health in the Homeland Security Environment ⁵⁷⁷
May 7, 2003	House Committee on Energy and Commerce	SARS: Assessment, Outlook, and Lessons Learned ⁵⁷⁸
May 12, 2003	Congressional-Executive Commission on China	Dangerous Secrets—SARS and China's Healthcare System ⁵⁷⁹
May 21, 2003	Senate Governmental Affairs Committee	State and Local Response to SARS ⁵⁸⁰
June 5, 2003	House Transportation and Infrastructure Committee	Aircraft Cabin Environment ⁵⁸¹
July 30, 2003	Senate Investigations Subcommittee	Hearing on SARS ⁵⁸²

War on SARS

The *war on SARS* emerges as a key discursive frame throughout Congressional Hearings. It is a national security metaphor grounded in the political economy of U.S. Homeland Security that expands the cultural imagery of terrorist threats to include SARS. The structure of this frame consists of five structural elements: (1) *hero*, (2) *heroic weaponry*, (3) *heroic action*, (4) *enemy*, and (5) *Homeland in need of defense*.

SARS is framed as a post-September 11th national security threat, akin to terrorist threats and thus mandating similar Homeland Defense mobilization and funding. In

response to terrorist attacks on U.S. soil in 2001, the Homeland Security Act of 2002 established the Department of Homeland Security (DHS) with a mission that includes:

- (A) prevent terrorist attacks within the United States;
- (B) reduce the vulnerability of the United States to terrorism;
- (C) minimize the damage, and assist in the recovery, from terrorist attacks that do occur within the United States;
- (D) carry out all function of entities transferring to the Department, including by acting as a focal point regarding natural and manmade crises and emergency planning⁵⁸³

Agency arms of DHS include: Transportation Security Administration (TSA), United States Customs and Border Protection (CBP), United States Citizenship and Immigration Services, United States Immigration and Customs Enforcement (ICE), and Federal Emergency Management (FEMA).⁵⁸⁴ The Homeland Security Act defines “American homeland” and “homeland” as the United States.⁵⁸⁵ In the 2003 State of the Union Address, President Bush proposes Project Bioshield:

I ask [Congress] tonight to add to our future security with a major research and production effort to guard our people against bioterrorism, called Project Bioshield. The budget I send you will propose almost \$6 billion to quickly make available effective vaccines and treatments against agents like anthrax, botulinum toxin, Ebola, and plague. We must assume that our enemies would use these diseases as weapons, and we must act before the dangers are upon us.⁵⁸⁶

The President establishes “research and production efforts,” such as “effective vaccines and treatments,” as urgent countermeasures to enemy bioterrorism that threaten Homeland Security.

On April 4, 2003, the House Government Reform Committee held a hearing on Project Bioshield. This hearing’s purpose was to “examine the administration proposal known as the Project Bioshield Act, which is designed to protect the health and safety of the American people in the event of a bioterrorist attack.”⁵⁸⁷ Due to the federal government’s insufficient in-house capabilities to develop effective countermeasures to

bioterrorist attacks and public health emergencies, it needs to provide enough incentives and protection to private industry towards vaccine and drug development.⁵⁸⁸ This hearing took place a few weeks after WHO issued its first ever global alert on March 12, 2003, notifying the world public health community of atypical pneumonia cases⁵⁸⁹, and several days before the first hearing specifically devoted to SARS took place on April 9, 2003. While the Project Bioshield Act hearing does not focus entirely on the SARS epidemic, it addresses SARS within the context of a national defense initiative. Its central purpose is to hear expert testimony with regards to concerns to the proposal.⁵⁹⁰ Testimony was provided by eight experts in the form of two panels. The first panel presented expert testimony from government science, health, and defense officials. The second panel presented expert testimony from private industry interests. Each panel member presented testimony and then responded to two rounds of questions from Committee members.⁵⁹¹

The Congressional Hearing on Project Bioshield demonstrates government public-policy's pervasive discursive formation of federal government agencies, private industries and health-care workers as *heroes* of war. The *war on SARS* utilizes military references, such as "frontlines"⁵⁹², "combat ready"⁵⁹³, "mount a response,"⁵⁹⁴ and "mobilize resources."⁵⁹⁵ Global scientific collaborations and the strength of public health infrastructures are emphasized as *heroic weaponry*. SARS, as an infectious agent and syndrome, is depicted as the *enemy*, and metaphorically as a bioterrorist threat and/or as nature. Through heroic *action* and the use of largely biomedical *weapons*, such as vaccines, *heroes* combat the *enemy* and defend the *Homeland*. American citizens are *at-risk subjects*, in need of protection by public-private efforts to develop biomedical

countermeasures. Dr. Mark McClellan, the Commissioner of the Food and Drug Administration (FDA), states: “This bill will significantly...improve our ability to protect our citizens from these threats.”⁵⁹⁶ The need to protect the “American public” as citizens and consumers and meet its public health needs is invoked by Congress and expert witnesses.

Research and development into SARS countermeasures are placed in league with the post-September 11th production of biodefense weapons. A general consensus emerges for Project Bioshield’s inclusion of SARS as a threat against which government and private industry must mobilize. Contributing to the construction of SARS as a Homeland Security threat, public health experts and industry representatives describe the temporal moment as “war-time.” Dr. Anthony Fauci, a National Institute of Allergy and Infectious Diseases official (NIAID), describes the temporal moment for the biomedical community as “war-time mode”:

...the events of September the 11th, 2001, and the subsequent anthrax attacks have changed probably forever how the biomedical community is going to respond to emerging threats. We are now in a *war-time mode* and are compelled to modify the way we do business without compromising the elements that have made us so successful. (emphasis mine)⁵⁹⁷

Existing countermeasures are based in old technology, while new technologies, with potential applications in bioterrorism countermeasures that would be more safe and effective, have yet to be fully explored due to the financial risks.⁵⁹⁸

Infectious Disease Society of America (IDSA), represented by Dr. John Edwards, supports Project Bioshield. Pharmaceutical companies, for financial reasons, have moved away from anti-infective drug development.⁵⁹⁹ This is described as a “national crisis” in need of a “national solution.”⁶⁰⁰ Project Bioshield needs to address agents of

bioterrorism *and* naturally occurring infections. SARS is as a timely example of naturally occurring infectious disease that poses a threat to the nation. Project Bioshield, however, in its current incarnation has only “tangential” relevance to SARS. If Congress amends the act to “include a framework to protect Americans against naturally occurring and drug resistant and emerging infections that are increasingly present in our hospitals and communities,” then Project Bioshield could assist in SARS response.⁶⁰¹ U.S. Representative Thomas Davis, Chairman of the Committee, responds well to Edward’s proposed amendments:

We don’t know what will happen from a bioterrorism point of view over the next decade—hopefully nothing. But there are going to probably continue to be SARS and mutations and things that...the private marketplace is going to be reluctant to get into without strong federal help. And having a system up that...could include these areas I think would be very, very helpful.⁶⁰²

SARS is a timely example of naturally occurring infectious disease threats that are always imminent. Additionally, the representative of Aventis Pasteur compares Project Bioshield’s proposed public-private partnership to the government’s “war on terror” partnership with defense corporations: “It’s as if to say we fight a war in Iraq and Boeing’s not there, Lockheed’s not there, Northrup’s not there.”⁶⁰³ If a war on infectious diseases, terrorist and natural, is fought, then private biodefense companies must be there. This is the *war on SARS*.

Congress and private industry concur that this national security initiative ought to be amended to include “natural” threats, such as infectious diseases exemplified by the timely SARS outbreak. An NIH official states that “nature itself can be a worse bioterrorist.”⁶⁰⁴ “Nature” is frequently invoked as the *enemy*. Nature originates SARS, attacks with biologic agents⁶⁰⁵, “spreads diseases”⁶⁰⁶, and threatens the human species.⁶⁰⁷

Nature is positioned in opposition to the human species—that is, nature versus “mankind.” For example, Senator Kennedy asks public health authorities: “Where would you put [SARS] in terms of its danger to mankind?”⁶⁰⁸ Describing SARS as a threat from nature conflates naturally occurring infectious diseases with bioterrorist threats and imbues nature with agency. This metaphor is additionally gendered feminine as “Mother Nature”: “Our ability as a nation to defend ourself [sic] against all enemies, foreign or domestic, or even Mother nature, depends on our commitment to preparedness”⁶⁰⁹ and “the critical need for our country...to prepare its homeland security against both human-made and Mother Nature-made biologic agent attacks.”⁶¹⁰ *The war on SARS frames a conflict between masculine and feminine—a masculine nation versus a feminine nature. Mother Nature is a bioterrorist, a national security risk, a never-ending threat to mankind, and a formidable challenge to man’s biomedical and public health weaponry.* (Appendix, Figure A.15 depicts elements and examples of this discursive frame.)

Ir/Responsible Global Biopolitical Citizenship

Emerging from a discourse analysis of government-public policy’s Congressional hearings is the concept of a *ir/responsible global biopolitical citizenship*. On levels of the nation-state and the individual, an oppositional binary arises between SARS responses that are considered either *responsible* or *irresponsible* (see Figure 4.4). Fulfilling these responsibilities, or failing to, is framed as having dire public health consequences in an inter-connected world that is rapidly traversed by trade, travelers, and infectious diseases.

At the nation-state level, a responsible global biopolitical citizen practices *transparency* and engages in *collaborative and cooperative research and practice*. For a nation-state to practice *transparency*, it openly and honestly communicates SARS-related information to its own people and the international public health community.

Transparency is significant on a global level:

...the real lesson of SARS is that the more transparent countries are the quicker they report the cases, the quicker the international assistance can get there...the [wider] the window of opportunity for the rest of the world to be able to protect themselves against these diseases that can, in a matter of hours, fly around the world.⁶¹¹

Collaboration and cooperation, among scientific research communities, trade and industry, public health organizations, and nation-state governments, are vital to a global public health infrastructure necessary for controlling SARS spread. Public health experts extol the “spirit of collaboration among the global scientific community.”⁶¹² An irresponsible nation-state, on the other hand, is secretive, fails at risk containment, engages in a campaign of misinformation to its own people and the world, and refuses to cooperate fully with the global public health community led by WHO and CDC.

At the individual level, responsibility entails actively seeking knowledge, practicing self-surveillance and self-policing, and voluntarily containing bodily risks. On the other hand, the individual who does not fulfill public health responsibilities to self and society spreads contagion and infection locally and globally.

Federal, state, and local levels of the U.S. government and WHO, including these agencies’ public health officials and scientists, embody the responsible global biopolitical citizen at the nation-state level. The Chinese government, on the other hand, embodies

Figure 4.4: Characteristics and examples of ir/responsible global biopolitical citizens at nation-state and individual levels.

	Responsible	Irresponsible
Nation-State	<ul style="list-style-type: none"> • transparency • open communication • collaborative and cooperative research and practice <p>United States government and global public health community (WHO)</p>	<ul style="list-style-type: none"> • secrecy and denial • deliberate miscommunication • inadequate public health system • refusal of outside assistance <p>China’s government</p>
Individual	<ul style="list-style-type: none"> • actively seek information • voluntarily follow advice of public health authorities • self-surveil for symptoms • “self-police” and self-refer to health authorities <p>“good [American] citizens”</p>	<ul style="list-style-type: none"> • implicitly blamed for introducing SARS transmission from the East to the West <p>SARS cases (index cases and first cases)</p>

the irresponsible global biopolitical citizen. At the individual level, responsible global biopolitical citizens are depicted as members of the American public who actively seek SARS-related information and who voluntarily follow public health advice and requests. SARS-related Congressional hearings are held to protect the good of the American public. Particular SARS cases, described as spreading infection particularly across national borders, embody irresponsible global biopolitical citizens on the individual level.

Ir/Responsibility at the Nation-State Level.

The responsible global biopolitical citizen is nationed as the United States and its collaborating partners. U.S. legislators and public health officials emphasize the transparency of CDC’s SARS response, its open communication to the public, and the leadership of U.S. government public health agencies in not only protecting America but also the world from the threat of SARS. In Congress’ depiction of itself as partially facilitating CDC’s public communication, it positions itself as committed to the public

good. U.S. collaboration and cooperation with the global public health community is praised as vital to global SARS response.

On April 7th, 2003, the first Congressional hearing centrally focused on SARS was held by the Senate Health, Education, Labor and Pensions Committee. This Hearing's purpose was to make known to Congress and the American people the most up-to-date SARS information provided by leading international and national public health officials.⁶¹³ The Director of the CDC, Dr. Julie Gerberding, thanks Congress for the opportunity to communicate to the public:

[CDC] really appreciate[s] this opportunity to appear hear [sic] today. I think it's so important to get this kind of information out to the public and to Congress as it devolves, so I really am very, very grateful for this chance.⁶¹⁴

Testifying to Congress and the American people, she introduces CDC as an agency committed to the public good through open and timely communication. A few weeks later, she stresses CDC's transparency and exemplary communication effort to the media, the American public, clinicians nationally and around the world, and the Asian American community:

...we [CDC] are working extremely hard to be as transparent about what's going on and are putting a strong effort into communication. I wanted to give you some impression of how active our communication system at CDC has really been. We've triaged...almost 5,000 press calls. Our hotline has answered over 22,000 calls for information from the public and about 2,300 emails...we're reaching hundreds of thousands of clinicians around the country...Our website has been accessed by more than 6 million people on SARS so far...We are now conducting tele-briefings with people in the Asian American community, because we recognize the ongoing concern about fear and discrimination that they're having to deal with...⁶¹⁵

Furthermore, Congress lavishes praise upon the leaders of U.S. public health agencies. Gerberding and Fauci, a NIH official, are described as having done an "exceptional job," as "leading the fight," and as "coordinating and leading this aggressive effort to try to get

our hands...and arms around this significant health threat to not only our country but to the world.”⁶¹⁶ Finally, reassuring the American public is deemed important by Senator

Kennedy:

... I think the reassurance that the American people should have with the fact that we have been on this so quickly, with the leadership of the World Health Organization, the NIH already moving with the vaccines, Dr. Gerberding and the communication, ...our leading health research agencies...are working on this and we have really the best in the world that are working on it. And there are going to be others who probably will be infected...some will lose their lives, but I think the American people should be very reassured that we have got the best working on it and dealing with in an important, scientific way, and help is on its way.⁶¹⁷

The Senator concedes that SARS poses “danger” and that “some will lose their lives” in the U.S.; however, he seeks to instill public confidence in the government’s scientific and political capabilities in handling the SARS urgency.⁶¹⁸

Public health officials praise public health organizations, particularly WHO and CDC, for collaborative and cooperative research and practice. Dr. Fauci testifies:

I want to start off by echoing the point...made regarding the job that the Centers for Disease Control and Prevention and the World Health Organization have done on this. As a research scientist involved in infectious diseases, the degree of competence and collaboration that the Centers for Disease Control and Prevention have manifested in this is really quite extraordinary, and I wanted to take this opportunity to publicly thank Dr. Gerberding and her colleagues at the CDC for the most extraordinary job...⁶¹⁹

Throughout Congressional hearings, the U.S. government’s SARS response is praised for its transparency, open communication, and national and global leadership. Public health organizations engaged in collaborative and cooperative research and practice are highly commended for participating in the global effort to understand and contain the SARS epidemic. These qualities mark a responsible global biopolitical citizen on the nation-state level.

China is very clearly nationed as the irresponsible global biopolitical citizen. Congressional committee questioning and expert testimony focus largely on China as the “weak link” in a global public health infrastructure. This nation-state’s handling of the SARS outbreak is criticized for its secrecy to the world and its own people, lack of openness and accountability, inadequate public health infrastructure, unwillingness to work with the international health community, and resistance to outside assistance. The Congressional-Executive Commission on China even held a hearing entitled “Dangerous Secrets—SARS and China’s Healthcare System.” In other words, China serves as an example of how a nation-state failed to fulfill its biopolitical responsibility as a global citizen.

As opposed to the praise lavished upon U.S. transparency and collaboration, criticism is heaped upon China for the following: “cover up of data”⁶²⁰; “denial” of a public health problem⁶²¹; “reluctant acknowledgment and hesitant mobilization of resources, and reticence to deal with the international community”⁶²²; “reluctance to collaborate effectively with foreign partners”⁶²³; “stonewalling”⁶²⁴; and “unwilling[ness] to provide...information to the global health communities.”⁶²⁵ Heymann criticizes China for its lack of openness and resistance to WHO assistance:

One issue was a very important issue to us, and that was China. And, as you know, China had not been open with the information about the disease -- as open as we had hoped, despite our working intensively with them.⁶²⁶

Congress blames China for obfuscating SARS-related information to its people and for the consequent global SARS spread: “We know that China was not, at first, up front with its citizens about the disease. And as a result, both confusion and the disease have spread.”⁶²⁷ Bates Gill, Freeman Chair in China Studies at the Center for Strategic and

International Studies, sees the SARS crisis as manifesting cracks in China's political and public health systems:

But I think it is worth thinking about... trying to get a better grasp of where the SARS epidemic is going to be taking us in terms of some of these questions of openness and change in China. On the other hand, we see that the SARS outbreak exposes a number of very troubling developments as well: old-style misinformation, opaque miscommunication, the ailing healthcare infrastructure, and a continuing reticence, by and large, to work openly with foreign partners. So these negative developments also raise serious questions about the Chinese ability to cope with other infectious diseases, such as hepatitis, tuberculosis, and HIV/AIDS.⁶²⁸

China is described as engaging in “opaque miscommunication,” as outdated politically, and as self-isolating from the global community. Additionally Gill accuses China of deliberately obstructing information and misleading the United Nations:

...we unfortunately saw, yet again, a rather sclerotic and reactive political and bureaucratic process in China. In taking so long to reveal the real dimensions of the SARS problem, the Chinese authorities unfortunately underscored their reputation as secretive and often out of step with international practice.⁶²⁹

Finally, Fauci indicts China's actions as “inexcusable and unconscionable” and as an example

of a nation's irresponsibility to its own people and the global community:

I believe with all of the pain and unfortunate events that have subsequently happened because of the reluctance of the Chinese early on to be forthcoming, I see that as being now a global wake up call to any country...to see what the dire consequences, not only for the rest of the world, but within their own country, that keeping silent--because right now China is bearing the brunt of not only the responsibility in some respects to what is going on, but some significant duress from their own country.⁶³⁰

China's irresponsibility is blamed for the multi-country SARS outbreak and serves as a “global wake up call to any country” as to what a nation-state's responsibility is to the rest of the world. The irresponsible global biopolitical citizen is nationed as China and

functions as the blameworthy foil to the U.S. and the rest of the global health community as responsible leaders.

Ir/Responsibility at the Individual Level

At the level of the individual, a responsible global biopolitical citizen actively seeks knowledge, practices self-prevention, engages in self-surveillance and self-policing, and voluntarily contains bodily risks. Face masks are symbols of panicked SARS self-protection. In contrast, irresponsibility is embodied by SARS cases, specifically those who spread SARS across national borders, and is implied rather than blatantly assigned.

“American citizens” are to understand that their “obligations as good citizens” involves self-surveilling for SARS symptoms. Senator Judd Gregg states:

...it is important that we identify quickly people who may have symptoms of SARS, especially those coming into the United States...and the people sort of *self-police* themselves as they come back from regions which may have high infection rates, and if they have the sense that they have a cold symptoms, that they call their medical provider, call them, not go to them...and find out what the next step is...it's important that American citizens understand that that's their *obligations as good citizens* to pursue that course of action.⁶³¹ (emphasis mine)

American citizens are to “self-police themselves,” especially if they are returning from areas of high rates of SARS infection, contact their medical providers if they suspect infection, but definitely not “go to them,” that is a healthcare facility, in order to contain their bodily risks from others. These expectations are the responsibilities of “good citizens.”

Plenty of exchanges take place between Congressional committee members and testifying experts with respect to what “John Q citizen”⁶³² and the “general average citizen”⁶³³ should do to protect themselves. For example:

SEN. KENNEDY: Dr. Gerberding, I think most Americans want to know what can they do to prevent getting it. What would you say to people that are watching this and say, "What can I do in order to try and avoid it?" What advice would you give them?

DR. GERBERDING: ...we have indicated that people should avoid non-essential travel to the countries where this is especially problematic, and particularly in community situations. And so we are recommending that unless you have to go, defer your trip and wait until we have a little bit better handle on containment in these regions.⁶³⁴

In this exchange, Senator Kennedy brings the American public into the conversation by directly calling upon the expert to provide advice to the American people with respect to self prevention. As part of Congress' interest in openly communicating with the public with regards to self precautions, legislators question public health experts about the use of face masks. According to the following statement, parents, without proper advice, may send their children to school wearing face masks out of "panic and overreaction":

SENATOR COLEMAN: ...local communities need to be properly educated so that they can protect themselves in a rational manner. A case of SARS implies that a large number of coworkers, schoolmates and social friends and their families might potentially be infected. As soon as they learn that the parent of a schoolmate has SARS, parents will want to know whether they should keep their children home, send them to class wearing masks or take other precautions. The lack of education can make it difficult for people to properly protect themselves from transmission. But it can also lead to a sense of panic and overreaction, stalling the economic activity on which all employment depends.⁶³⁵

Gregg seeks expert clarification for the American people about the necessity of face masks:

SENATOR GREGG: Now, we have seen these surgical masks being worn throughout airports in China. I would like anybody on our panel to describe to us what -- what is the use for these? Do they have a practical, positive medical use or not?⁶³⁶

Gerberding recommends masks for health care workers in healthcare settings and SARS patients in the home. Otherwise, CDC does not recommend face masks. However, it is

recognized that masks are donned in areas of the world with local transmission as a “just-in-case scenario.”

While not explicitly labeled as “irresponsible,” SARS cases, specifically index cases and first cases, embody the realized risks of SARS having crossed national borders from the East to the West. For example, a Health Canada official describes Ontario’s first SARS case:

It was unfortunate that the first case in Ontario was a woman who came back from Hong Kong...became ill and died at home. And a member of her family, who acquired SARS came to an emergency room in a hospital and spent a number of hours there and transmitted SARS and two health care workers in our rotation.⁶³⁷

This SARS case, described as a woman and a “Toronto resident,” transmitted infection to a family member in Ontario who, in turn, infected two health care workers. Canadian health officials also attributed all community SARS cases in Ontario to this first case.⁶³⁸ Not identified by race, she is identified as a “Toronto resident,” implying that she may not be a Canadian citizen. At the same time, Hong Kong is framed as a *risky place*. The assignment of irresponsibility to a global biopolitical citizen is far less blatant at the individual level than at the nation-state level. Individuals are not specifically indicted by name, for example, compared to an entire Congressional hearing devoted to China’s “dangerous secrets.” SARS cases that are index cases and first cases are framed as the embodiment of SARS spread across national borders. If infection can be contained through responsible action, such as taking certain self-precautions, then the irresponsibility of these SARS cases is implied.

Risk Component of SARS Discourse

Sentences containing the word “risk” in Congressional Hearings comprise the analyzed risk component in the government-public policy social world. I conducted a text search for the word “risk” of all 12 sampled Congressional Hearings. This resulted in 121 hits. Compared to the science arena, government-public policy’s risk discourse has more strains; however, the underlying structure remains similar. Simply stated, SARS-associated risks are posed by some human element, thing, or place to another human element, thing, or place. Intervening entities—collective agents or individuals—act to counter, reduce, and/or elucidate the risks. These intervening entities consist of public health organizations, U.S. federal government agencies, U.S. state health departments, U.S. Congress, U.S. government officials, and private industries.

It is not incidental that the only “active” human elements in government-public policy’s SARS discourse are intervening entities. I use “active” to characterize human elements who speak during the Hearings as recorded by transcripts or submitted testimonies. They actively participate in the construction of themselves and their roles in SARS discourse through their testimonies and responses to Hearing questions. Much of what and how they testify is, of course, constrained by the forum and those in charge. By presiding over the Hearings, legislators and their respective Committees are able to structure what matters most in its SARS discourse. *These intervening entities discursively construct themselves as significant players based upon their interventions to counter, reduce and/or elucidate SARS-associated risks.* They are, in effect, positioning themselves as transparent, responsive, and collaborative leaders. Figure 4.5 provides examples of intervening entities and their risk countermeasures.

Figure 4.5: Examples of intervening entities and their risk countermeasures.

Intervening Entities	Risk Countermeasures
Federal and State leadership	Risk communication so “people have a better idea of risk perception” ⁶³⁹
State health departments	Conduct research on risk factors ⁶⁴⁰
National Institute of Allergy and Infectious Diseases (NIAID)	Conduct research on SARS risk factors and epidemiology ⁶⁴¹
Secretary Tommy Thompson, Department of Health and Human Services	Executive Order expands Thompson’s authority to approve quarantine sites ⁶⁴²
Food and Drug Administration (FDA)	Protect “at-risk” U.S. populations through public-private collaboration and development of countermeasures ⁶⁴³
Center for Infectious Disease Research and Policy	“educate the American people to what a real risk is and how you should respond to the risk” ⁶⁴⁴
World Health Organization (WHO)	Assess information and data on a daily basis for risks to international health ⁶⁴⁵
Centers for Disease Control and Prevention (CDC)	Conduct research to “estimate the risks of infection” and to “identify risk factors for transmission” ⁶⁴⁶
U.S. Congress	<ul style="list-style-type: none"> • Legislators question public health experts about the level of SARS risk to the American people⁶⁴⁷ • Legislators question whether WHO could expand its “authority to monitor in-country disease outbreaks and quarantine procedures” • Holds SARS-related hearings to communicate to the American people the U.S. government’s SARS response

Risky Border Crossings

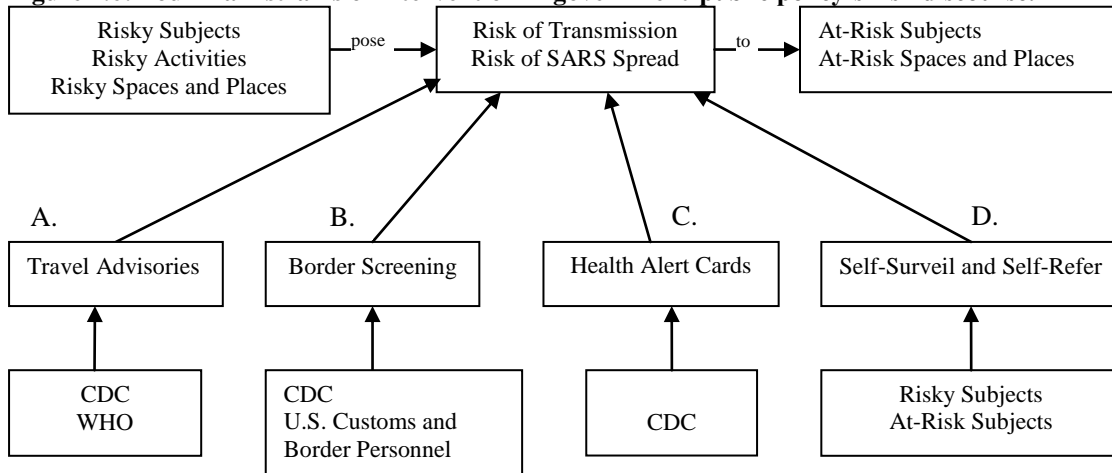
National borders are vital to risk containment. To protect the nation, its health, its security and its people, threats must remain outside its borders. Particular collective and individual human elements intervene to prevent microbial threats that are embodied by *risky subjects* from *risky spaces and places*. *Risky subjects* include incoming travelers from places with high rates of SARS,⁶⁴⁸ “persons crossing the border [that] show symptoms of SARS,⁶⁴⁹ and “somebody back from China or Taiwan or Hong Kong that are [sic] mingling in the community.”⁶⁵⁰ In addition to the U.S. border, East and Southeast Asia and Canada are deemed *risky spaces and places*.⁶⁵¹ For the most part, these risky subjects are not explicitly gendered, raced, or nationed. However, in that they embody SARS threats largely from Asian nations, they are, in effect, raced-nationed as Asian. SARS-associated risks, such as risks of transmission and spread, are posed to *at-*

risk subjects—specifically American travelers and the American public—and *at-risk spaces and places*—specifically American communities where risky subjects return or visit.⁶⁵² While nationed as American, *at-risk subjects* are de-gendered and de-raced.

Four main interventions are presented (Figure 4.6). First, CDC and WHO issue travel advisories for specific nations and cities with SARS transmission risks (strain A). These public health organizations, in effect, construct these places as *risky spaces and places* and literally nation them as Mainland China, Hong Kong, Taiwan,⁶⁵³ and Singapore.⁶⁵⁴ Second, CDC, U.S. Customs, and border personnel screen potentially *risky subjects* entering the U.S. (strain B). Third, CDC distributes health alert cards to outgoing and incoming travelers, informing them of SARS-affected areas, and advising travelers to “be aware that there is SARS in the country you’re planning to visit, don’t go to places where SARS is being transmitted and use common sense precautions to protect yourself”⁶⁵⁵ (strain C). Fourth, public health officials advise travelers returning from SARS-affected areas to self-surveil and to self-refer to health authorities if symptoms arise⁶⁵⁶ (strain D). These travelers are simultaneously *at-risk subjects*; they recently traveled to *risky places*. They are also *risky subjects*; they pose potential SARS transmission risks to their contacts.

Related to the discursive construction of *risky border crossings*, airline cabin-associated SARS transmission risks are also addressed as potentially threatening to America’s public health. Flying in a commercial aircraft is characterized as a *risky activity*. Within the *risky space* of an aircraft cabin reside *risky matter*—SARS coronavirus and aircraft cabin air—and *risky subjects*—“ill passengers.”⁶⁵⁷ *At-risk*

Figure 4.6: Four main strains of intervention in government-public policy’s risk discourse.



subjects include the flying public and “other passengers.”⁶⁵⁸ Four main interventions are presented. First, the airline industry suggests standardized sanitation procedures for aircraft cabins and argues for the effectiveness of air filters. Second, CDC and its public health partners screen and prevent *risky subjects* from boarding airplanes. Third, CDC and its public health partners also conduct epidemiological studies and research to elucidate the risk of airline cabin-associated SARS transmission. Fourth, CDC quarantine investigators and customs officials have the ability, when crew members identify possible *risky subjects*, to board the plane and evaluate ill passengers.⁶⁵⁹

How does government-public policy frame the public policy, science, and media arenas?

The science and public policy arenas are primarily depicted as leaders and heroes in U.S.’s SARS response, as defenders of national security, and as protectors of the American public. Expert witnesses and Congressional members refer to the public policy arena as a forum in which the federal government and public health leaders can openly communicate to the American people.⁶⁶⁰ However, members of Congress, at times exasperated by what they perceive as government science’s lethargic research

processes⁶⁶¹ and dangerously inefficient public health authority,⁶⁶² emphasize that they, as legislators, can affect budget increases and federal legislation.⁶⁶³ With respect to the mainstream news media, Congress asks the CDC to assess the quality of media coverage:

SEN. DODD:...How do you feel that the news media generally is covering this story?...as a mainstream media -- television, print journalism -- how well is this story being covered, accurately being covered?

DR. GERBERDING: This morning I looked at the CDC clips on SARS, and it's a stack of newspaper reprints about this big. That's more coverage than we had for anthrax. And so I read through the major articles -- I didn't have time to read through all of them. And it's very impressive, the quality and the caliber of the reporting that we are seeing. I think people recognize this as an emerging health threat. They are playing it accurately, not overstating the issues, not understating the issues...But we have worked very hard to try to educate the media and to make ourselves available to them in any way that we can to get this information out. We are very impressed with what they are doing.⁶⁶⁴

Media, while addressed at times in the Hearings, is not a primary social arena in government-public policy's SARS discourse.

Summary of Results

Central discursive frames and human elements emerge out of a grounded theory approach to SARS discourse analysis. First, the *War on SARS* is grounded in post-September 11th Homeland Security policy proposals, practices, and funding. Second, *Oppositional Metaphors and Analogies*—*war/battle*, *crime mystery*, *hunting*, *close animal-human proximity*, and *otherworldly and apocalyptic imagery*—are auxiliaries to this frame. Third, *Ir/Responsible Global Biopolitical Citizens* produces individuals and nation-states (including global and nation-state public health organizations) as fulfilling, or failing to fulfill, responsibilities to global public health. Approbation or blame and fault are assigned on the basis of how ir/responsibility is framed. Fourth, *SARS Risk*

Discourse produces a narrative in which *intervening entities* situate themselves as significant through risk countermeasures, involving research, technology, and control measures. They counter SARS risks posed by, for example, *risky subjects* to *at-risk subjects*. Fifth, subjects negotiate identities and choices in accordance to SARS risk and responsibility in *Biopolitical Subjectivity in the “New Normal.”* Sixth, *Face Masks and Metaphors of Un/Masking* emerges more fully out of mainstream news media and, in particular, its visual images. This shapes the final discursive frame—*Trio of Human-Technology Figures*—as principle configurations in SARS discourse. SARS discourse is contoured by already existing narratives of race, nation, and gender, as it simultaneously rearticulates these narratives as a technoscientific race-nation-gender project.

VISUAL DISCOURSE ANALYSIS

Overview of Categories and Properties

Visual images can be categorized and described by their properties. **Biomedical images** include chest radiographs, computed tomography (CT) scans, and viral and cellular images, such as of 3-D structures of the SARS-associated coronavirus. **Graphs** consist of line, bar, and point graphs that chart different types of data relationships. **Timelines** depict significant events over a temporal element. **Geographical maps** spatially orient readers to data pertaining to geographic locations. **Transmission representations** depict human chains of transmission and contact histories. These diagrams trace SARS infection from one case that spreads the infection to other cases that, in turn, continue the chain of transmission. **Case definition matrix** presents criteria upon which different types of SARS cases are classified. **Animal-human** images generally feature animals in food markets, food handlers, and farmers and their animals. I enumerate these categories by data source and social world in the results section.

Experts/officials generally include photos of global and national public health officials, noted scientists and researchers, political officials, and private industry leaders. Experts/officials are identified by name within the caption and/or article text. **People**, on the other hand, are unnamed and not explicitly described as experts or officials. People include, for example, travelers in airports, subway commuters, and food market purveyors. I enumerate these categories by data source and social world in the results section. I code visual representations of **experts/officials** and **people** by race, gender, and whether or not the human figures are masked or unmasked. In addition to

enumerating the photographs, I actually count the number of human figures in these photographs.

SCIENCE ARENA: Government-Science Social World

I sampled 38 total visual images. Of the 23 total images in *MMWR*'s publications, 16 are **graphs**. The remaining seven images consist of three **geographical maps**, one **biomedical image**, and one **case definition matrix**. Of *EID*'s 13 total visual images: eight are **biomedical images**; five are **graphs**; and, two are well-known **artworks** featured as cover images.⁶⁶⁵ The nine total **biomedical images** include eight chest radiographs⁶⁶⁶ and one electron micrograph of a SARS-associated coronavirus-infected cell.⁶⁶⁷ Chest radiographs represent clinical features of patients over time and are classified as **biomedical images**. *MMWR* publishes two **transmission representations**. Figure 4.7 depicts the numbers and types of images per data source.

Figure 4.7: Numbers of Visual images by Type of Visual Image for Data Sources

Type of Visual Image	Data Source		Total
	MMWR	EID	
Artwork	0	2	2
Biomedical	1	8	9
Case Definition Matrix	1	0	1
Geographical Map	3	0	3
Graph	16	5	21
Transmission Representations	2	0	2
Total	23	15	38

Images function primarily as visual evidence of this social world's and, in general, the science arena's role as authoritative producers of SARS knowledge and control measures. These visual images also contribute to the risk component of government-science's SARS discourse. Particular subjects and spaces are gendered, raced, and nationed as *risky* or *at-risk*. This occurs not through photographs of actual

human figures but through biomedical and epidemiological representations, such as chest radiographs of SARS cases and exposure categories in graphs.

SCIENCE ARENA: Non-Government Science Social World

For the non-government-science social world represented by *AJPH*, *JAMA*, *NEJM* and *Science*, visual images total 169. *AJPH* does not publish any SARS-related articles or images during this study's time frame. Of the 169 images: 79 are **biomedical images**; 42 are **graphs**; 15 are **experts/officials**; 13 are **people**; six are **geographical maps**; five are **transmission representations**; three are **animal-human**; and, six are **other** images. Absent in government-science, photos (and not x-rays of their viscera) of human entities, that are of **expert/officials** and **people**, are common in this social world.

Of the 28 total images in *JAMA*'s publications, 16 are **graphs**. The remaining 12 are split among four **biomedical images**, three **maps**, two **transmission representations**, two photos of **experts/officials**, and one **case definition matrix**. It should be noted that 19 out of the 28 total images are from *JAMA*'s republication of *MMWR* articles. *NEJM* has 48 total images—34 **biomedical images**, nine **graphs**, two **transmission representations**, one **timeline**, one **map**, and one photo of an **expert/official**. The timeline allows readers to trace the events of nine cases and overlaps in activities and times. Events indicated include: “potential travel exposure,” “stayed in Hotel A in Hong Kong,” “potential local exposure,” “onset of symptoms,” “admission to hospital,” and “requirement for mechanical ventilation.”⁶⁶⁸

Of the 93 total images in *Science*'s articles, 41 are **biomedical images**. The remaining 52 are split among: 17 **graphs**, 13 **people**, 12 **experts/officials**, three **animals**, two **maps**, one **transmission representation**, one photo of **Metropole Hotel**, one

postage stamp, one **television**, and one **satellite**. The caption for the **Metropole Hotel** photo reads: “Index patient. Infections traced to the Metropole Hotel have a distinctive mutation pattern.”⁶⁶⁹ The **postage stamp** image is of a special stamp issued by the Chinese to “celebrate the success” its “battle against SARS.”⁶⁷⁰ The caption for the **satellite dish** reads: “CHINA: Scientists Urged to Share Large, Costly Instruments.” This image contributes to non-government-science’s indictment of Chinese science as ineffective and backward. Figure 4.8 depicts the numbers and types of images per data source.

Figure 4.8: Number of Visual Images by Types of Visual Image for Data Sources

Type of Visual Image	Data Source				Total
	AJPH	JAMA	NEJM	Science	
Animal-Human	0	0	0	3	3
Biomedical	0	4	34	41	79
Case Definition Matrix	0	1	0	0	1
Expert/Official	0	2	1	12	15
Geographic Map	0	3	1	2	6
Graph	0	16	9	17	42
Metropole Hotel	0	0	0	1	1
People	0	0	0	13	13
Postage Stamp	0	0	0	1	1
Satellite	0	0	0	1	1
Television	0	0	0	1	1
Timeline	0	0	1	0	1
Transmission Representation	0	2	2	1	5
Total	0	28	48	93	169

Visual Representations of Human Figures

I coded visual representations of **experts/officials** and **people** by race, gender, and whether or not the human figures are masked or unmasked. Numbers in the Figures 4.9 and 4.10 represent the numbers of each type of human figure per data source’s visual images. In other words, the numbers do not indicate the numbers of photographs. For example, *Science* publishes representations of eight **experts/officials** who are unmasked

Asian men, not eight separate photographs of eight masked Asian men. This clarification is important, as the numbers in these figures measures different units compared to those in the previous figure.

Non-government-science publishes 25 total visual representations of **experts/officials**. The majority of these are unmasked and masked Asian men. Four of the experts/officials are unmasked white men. Asian women, white women, black men, and indeterminately raced men and women, all unmasked, are each visually represented once. *Science* publishes the majority of **experts/officials** and is the only source in this social world of **people**.

Figure 4.9: Numbers of each type of represented human figure per data source for “Expert/Official.”

Expert/Official						
Type of Human Figure		Data Source				
		AJPH	JAMA	NEJM	Science	Total
Unmasked	Asian Woman	0	0	0	1	1
	Asian Man	0	1	0	8	9
	White Woman	0	1	0	0	1
	White Man	0	0	1	3	4
	Black Woman	0	0	0	0	0
	Black Man	0	1	0	0	1
	Indeterminate Race-Man	0	0	0	1	1
	Interdeterminate Race-Woman	0	0	0	0	0
Masked	Asian Woman	0	0	0	0	0
	Asian Man	0	0	0	8	8
	White Woman	0	0	0	0	0
	White Man	0	0	0	0	0
	Black Woman	0	0	0	0	0
	Black Man	0	0	0	0	0
	Indeterminate Race—Woman	0	0	0	0	0
	Interdeterminate Race—Man	0	0	0	0	0

While Asian women, masked or unmasked, are the *least* visually represented **experts/officials**, masked Asian women far outnumber other visual representations of **people**. Of 15 total visual representations of **people**, 11 are masked Asian women.

Figure 4.10: Numbers of each type of represented human figure per data source for “People.”

People						
Type of Visual Image		Data Source				
		AJPH	JAMA	NEJM	Science	Total
Unmasked	Asian Woman	0	0	0	0	0
	Asian Man	0	0	0	0	0
	Asian Girl	0	0	0	0	0
	Asian Boy	0	0	0	0	0
	White Woman	0	0	0	0	0
	White Man	0	0	0	0	0
	Black Woman	0	0	0	0	0
	Black Man	0	0	0	0	0
	Indeterminate Race-Man	0	0	0	0	0
	Indeterminate Race-Woman	0	0	0	1	1
Masked	Asian Woman	0	0	0	11	11
	Asian Man	0	0	0	1	1
	Asian Girl	0	0	0	1	1
	Asian Boy	0	0	0	1	1
	White Woman	0	0	0	0	0
	White Man	0	0	0	0	0
	Black Woman	0	0	0	0	0
	Black Man	0	0	0	0	0
	Indeterminate Race-Man	0	0	0	0	0
	Indeterminate Race-Woman	0	0	0	0	0

Images 4.11 and 4.12 are exemplary **people** images which feature masked Asian women. In the first, we see an Asian woman, in an airport, whose masked profile serves as the photo’s central focus. She does not look at the camera. The caption identifies the scene as “Flight risk” and the masks as protective gear to “ward off an infection from a mysterious agent.”⁶⁷¹ This can be interpreted in two ways. First, at the literal level, the masked Asian woman responsibly protects herself as an *at-risk subject* about to engage in the *risky activity* of flying while a new mysterious disease runs rampant. However, at a symbolic level, this “flight risk” refers to the masked Asian woman herself; she is the “mysterious agent.” Close contact with “a person with a respiratory illness and travel to a SARS area”⁶⁷² is a CDC diagnostic criterion for suspected SARS cases. This masked Asian woman in Hong Kong’s international airport is a *risky subject*. In the second photograph (Image 4.12), the masked Asian woman is again the central focus of the

image. We see her standing surrounded by other masked Asian figures. Surveillance personnel, of which we can only see the arm and gloved hand, scans her forehead with a non-contact infrared thermometer. She is presumably being screened for SARS symptoms, such as an elevated temperature, in order to identify SARS cases and contain risks of transmission. Visual technology is employed to produce an otherwise invisible measurement. The masked Asian woman is framed as a potentially *risky subject*. At the same time, these images exemplify the emergence of the *masked Asian woman* as a configuration in SARS risk discourse.

Image 4.11 (left) and 4.12(right): Exemplary “people” visual images feature masked Asian women



Source: Enserink, “Infectious Diseases: Scientists Chase Fast-Moving and Deadly Global Illness,” *Science* 299, no. 5614 (21 March 2003): 1822.; Martin Enserink, “SARS in China: China’s Missed Chance,” *Science* 301, no. 5631 (18 July 2003): 294-296.

MEDIA ARENA: Mainstream News Media Social World

For mainstream news media represented by *The New York Times*, *Los Angeles Times*, *Time*, *Newsweek*, and *U.S News & World Report*, visual images total 273. Of the 273 images: 131 are **people**; 27 are **experts/officials**; 15 are **animal-human**; 14 are **biomedical**; nine are **graphs**; four are **graphs/maps**; four are **film stills**; three are **cover images**; three are **travel**; three are **geographic maps**; one is a **face mask**; one is a **map/chart**; one is a **map/timeline**; one is a **transmission representation**; and 37 are

other. Nineteen images are **art/illustrations** and, of these, nine contain face masks.

Figure 4.11 presents the numbers and types of visual images per data source.

Figure 4.11: Numbers and types of visual images per mainstream news media data source.

Mainstream News Media						
Type of Visual Image	Data Source					Total
	Newspapers		Magazines			
	New York Times	Los Angeles Times	Time	Newsweek	U.S. News & World Report	
Animal-Human	2	0	3	5	5	15
Art-Illustration	12	2	1	2	2	19
Face mask*	4/12	2/2	1/1	1/2	1/2	9/19
Biomedical	7	1	1	1	4	14
Cover Image	n/a	n/a	1	1	1	3
Expert/Official	19	6	0	2	0	27
Face Mask**	0	1	0	0	0	1
Film Still	0	0	2	2	0	4
Geographic Map	0	3	0	0	0	3
Graph	3	4	0	0	2	9
Graph/Map	1	0	2	1	0	4
Map/Chart	0	0	0	0	1	1
Map/Timeline	0	1	0	0	0	1
People	40	38	19	18	16	131
Transmission Representation	0	0	1	0	0	1
Travel	3	0	0	0	0	16
Other	2	22	7	4	2	37
Total	89	78	37	36	33	273

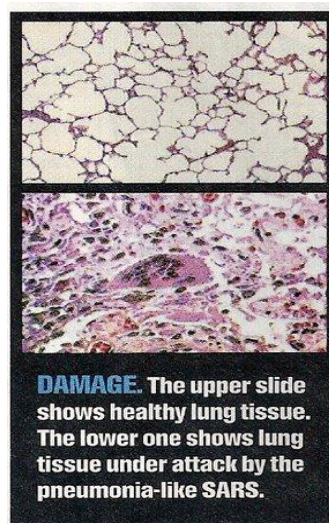
*Number of art-illustration images that include depictions of face masks/the total number of art/illustration images

**Number of images that include only face masks.

While **biomedical images** are the predominant visual images in government-science and non-government science, they are not as numerous in mainstream news media. These images include diagrams of the human body.⁶⁷³ They also include lung tissue images⁶⁷⁴ that juxtapose slides of healthy lung tissue and SARS-infected lung tissue (see Image 4.13).⁶⁷⁵ The significance of these biomedical images hinges upon visible evidence of SARS infection, otherwise invisible to the naked eye. Through the use of visual technology, the science arena can discern SARS infection and, in doing so, position itself as an authoritative knowledge producer. By publishing these images,

mainstream news media draw upon biomedical imagery to validate the legitimacy of their own reporting.

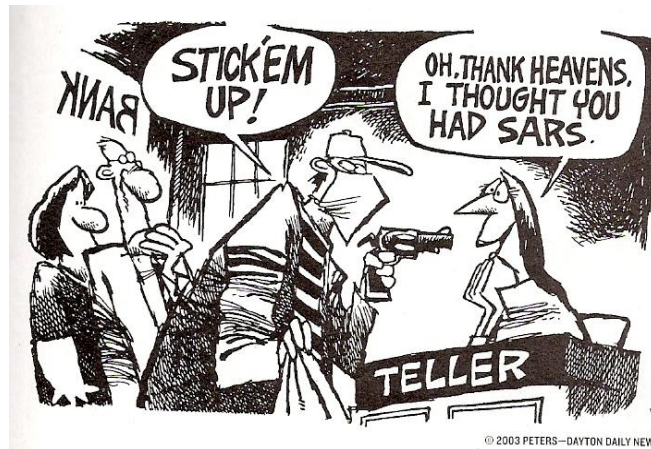
Image 4.13 An example of a “biomedical visual image” published by mainstream news media to legitimize its own reporting; Source: Nancy Shute, Matthew Benjamin, and Janet Rae-Dupree, “Germs and Jitters,” *U.S. News & World Report* 134, no. 12; 46.



I code **art-illustrations** separately from images that are primarily photographs or diagrams. This decision is based upon a distinction between photojournalism and illustration. For the most part, the sampled photographs are depictions, albeit still constructed, of actual occurrences and events, while illustrations and cartoons are more artistic renderings of particular themes. *NYT* has 12 illustrations and cartoons. *Time*, *Newsweek*, and *UNWR* have a combined total of seven. Nine out of the total 19 illustrations include face masks as symbols. For example, *Newsweek* publishes a cartoon (Image 4.14) depicting a face-masked bank robber. Upon seeing the gun, the bank teller sighs in relief, “Oh, thanks heavens, I thought you had SARS.”⁶⁷⁶ The robber’s masked face signifies his status as a *risky subject*. Compared to the threat of SARS, being held up at gunpoint and robbed is apparently something worth thanking the heavens.

Image 4.14: Face mask visual image

Source: "Perspectives," *Newsweek* 141, no. 18 (5 May 2003): 25.



Visual Representations of Human Figures

I coded visual representations of **experts/officials** and **people** by race, gender, and whether or not the human figures are masked or unmasked. I counted the number of human figures that appear in this social world's visual images. I coded 28 total human figures as **experts/officials**. Half of the total, that is 14, are unmasked white men, and seven are unmasked Asian men. Remaining human figures are unmasked white women and one man of indeterminate race. The vast majority of these human figures are published in *The New York Times*. The visual representation of public health experts and officials weighs heavily male, with 24 out of 28 human figures being men. It also weighs heavily not-Asian, with 20 out of 28 human figures appearing white or at least not-Asian. All the figures are unmasked. Asian women, whether masked or unmasked, are completely absent as experts/officials. Figure 4.12 presents numbers of human figures per types of human figures across data sources for **experts/officials**.

Figure 4.12: “Numbers of human figures” per “types of human figures” across data sources for “Experts/Officials”

Type of Human Figure		Expert/Official					
		Data Source					
		NYT	LAT	Time	Newsweek	UNWR	Total
Unmasked	Asian Woman	0	0	0	0	0	0
	Asian Girl	0	0	0	0	0	0
	Asian Man	6	0	1	0	0	7
	Asian Boy	0	0	0	0	0	0
	White Woman	4	0	0	0	0	4
	White Man	14	0	0	2	0	16
	Black Woman	0	0	0	0	0	0
	Black Man	0	0	0	0	0	0
	Indeterminate Race-Man	1	0	0	0	0	1
	Indeterminate Race-Woman	0	0	0	0	0	0
Masked	Asian Woman	0	0	0	0	0	0
	Asian Girl	0	0	0	0	0	0
	Asian Man	0	0	0	0	0	0
	Asian Boy	0	0	0	0	0	0
	White Woman	0	0	0	0	0	0
	White Man	0	0	0	0	0	0
	Black Woman	0	0	0	0	0	0
	Black Man	0	0	0	0	0	0
	Indeterminate Race—Woman	0	0	0	0	0	0
	Indeterminate Race—Man	0	0	0	0	0	0
Total		25	0	1	2	0	28

I coded 191 total human figures as **people**. Masked Asian women and girls far outnumber any other representations of **people**; 65 out of 191 are masked, Asian-raced, and women. Unmasked white men, the predominant image of public health experts and officials, total six as **people**. Figure 4.13 presents numbers of human figures per types of human figures across data sources for **people**.

Figure 4.13: “Numbers of human figures” per “types of human figures” across data sources for People

People							
Type of Human Figure		Data Source					
		NYT	LAT	Time	Newsweek	UNWR	Total
Unmasked	Asian Woman	5	5	1	1	1	13
	Asian Girl	1	1	0	0	5	7
	Asian Man	7	6	3	1	1	18
	Asian Boy	1	4	1	0	2	8
	White Woman	1	4	2	2	0	9
	White Man	1	3	1	1	0	6
	Black Woman	0	1	0	0	0	1
	Black Man	0	0	0	1	1	2
	Indeterminate Race-Man	0	0	0	0	0	0
	Indeterminate Race-Woman	1	0	0	0	0	1
Masked	Asian Woman	16	8	12	8	3	47
	Asian Girl	1	12	0	5	0	18
	Asian Man	11	5	6	5	3	30
	Asian Boy	0	0	0	3	1	4
	White Woman	0	1	0	2	3	6
	White Man	1	2	3	3	1	10
	Black Woman	0	0	0	0	0	0
	Black Man	0	0	0	0	0	0
	Indeterminate Race—Woman	1	2	1	2	4	10
	Indeterminate Race—Man	0	0	1	0	0	1
Total		47	54	31	34	25	191

SARS Configurations: A Trio of Human-Technology Figures

The principle visual embodiment of SARS discourse is a trio of human-technology figures: (1) *unmasked white men*, (2) *masked Asian women*, (3) and *masked white American*.

Unmasked White Men: Public Health Experts and Officials. Photographs of public health experts, authorities, and government officials overwhelmingly represent these human roles as *unmasked white men*. Representations of Asian women, whether masked or unmasked, are almost completely absent in these leadership roles. Images 4.15 and 4.16 exemplify the visual image of this configuration. In “Virus Badly Underreported in Beijing, WHO Team Finds,”⁶⁷⁷ *NYT* publishes Image 4.15. The caption

reads: “Members of a visiting World Health Organization team at a news conference in Beijing yesterday.”⁶⁷⁸ We see three unmasked white men, identified as WHO members, holding a press conference.

Image 4.15: Visual images of public health authorities are configured as “Unmasked White Men”
Source: Erik Eckholm, “Virus Badly Underreported in Beijing, W.H.O. Team Finds,” *New York Times*, 17 April 2003, Late Edition (East Coast): A.13.



Associated Press
 Members of a visiting World Health Organization team at a news conference in Beijing yesterday. Below, subway commuters in the capital wore masks to try to ward off severe acute respiratory syndrome.

Second, *NYT* publishes a photo of Dr. Klaus Stohr, a leading WHO investigator (Image 4.16). The caption reads: “Dr. Klaus Stohr helps lead the inquiry into a serious new illness.”⁶⁷⁹ We see a photograph of an unmasked white man, wearing a suit, looking straight into the camera. The unmasked white man is the predominant representation of a public health authority.

Image 4.16: Visual images of public health authorities are configured as “Unmasked White Men”
Source: Lawrence K. Altman, “To Contain Ailment, a Test Heads the Wish List,” *New York Times*, 8 April 2003, Late Edition (East Coast), F.6.



AP/Wide World Photo
 Dr. Klaus Stohr helps lead the inquiry into a serious new illness.

Masked Asian Women: Responsible Risky Subject. Images of masked Asian women and girls far outnumber any other un/masked-race-nation-gender category of visually represented **people**. She is discursively constructed through five main frames: (1) she is sexualized; (2) she is gendered as a protective mother; (3) she is a young girl; (4) she is commodified; and (5) her identity as *risky subject* is produced via visual technology that makes visible what is normally invisible to the naked eye.

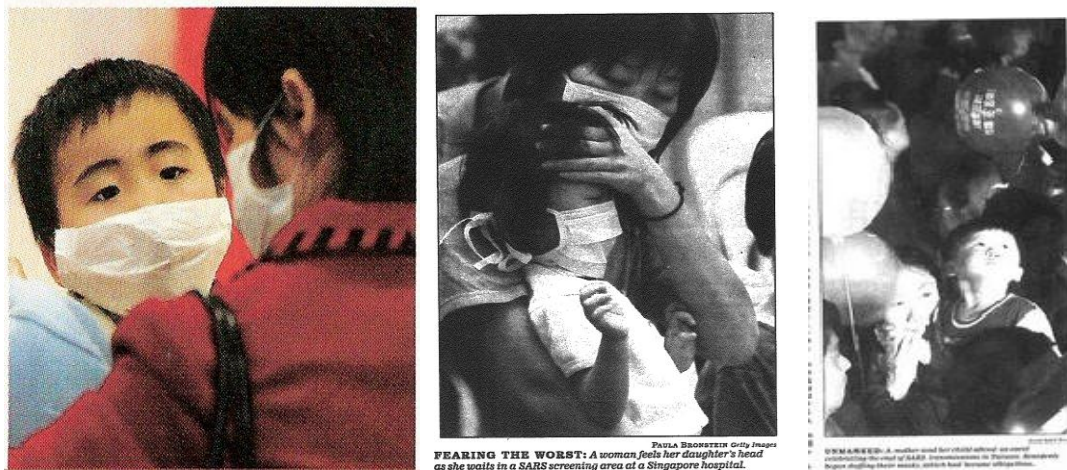
The un/masked Asian woman is sexualized. In Image 4.17, she is photographed in the midst of a kiss with an Asian man.⁶⁸⁰ To kiss, the couple partially removes their face masks. This image is striking in how it juxtaposes the symbol of the face mask with a very human symbol, the intimate act of kissing. For Image 4.18, the caption reads: “FEAR SPREADS, TOO—Despite no suspected cases of SARS reported in Hubei Province of China, a largely rural area, a groom, bride and her attendant took no chances yesterday as they crossed a street in Wuhan.”⁶⁸¹ We see an Asian man and woman, both masked and dressed in bride and groom attire. Again, this image is striking in that it juxtaposes a very familiar coupling, an elegantly dressed bride and groom, with the symbol of the face mask.

Images 4.17 (left) and 4.18 (right) are examples of sexualized “Masked Asian Women”
Sources: “Table of Contents,” *Newsweek* 141, no. 17 (28 April 2003): 5.; Lawrence K. Altman, “Study Suggests A Higher Rate of SARS Death,” *New York Times*, 7 May 2003, Late Edition (East Coast), A.1.



Second, the un/masked Asian woman is gendered as a protective mother. In Image 4.19, we see a mother holding her son, and both are masked. The caption reads: “A mother takes precautions in Hong Kong.”⁶⁸² In Image 4.20, we see an Asian mother and daughter. They are also both masked. The caption reads: “FEARING THE WORST: A woman feels her daughter’s head as she waits in a SARS screening area of a Singapore hospital.”⁶⁸³ In contrast, *LAT* publishes Image 4.21 which depicts another Asian mother-child pair, but they are both unmasked. The caption reads: “UNMASKED: A mother and her child attend an event celebrating the end of SARS transmissions in Taiwan. Residents began doffing their masks, which had become ubiquitous.”⁶⁸⁴ The unmasking symbolizes a celebratory end to SARS fear.

Images 4.19 (left), 4.20 (center), 4.21 (right) are examples of the “Masked Asian Woman” as protective mother
Source: “What Next? Killer Pneumonia,” *Time* 161, No. 12 (24 March 2003): 19.; Richard C. Paddock, “The World; Gains Cited in SARS Battle,” *Los Angeles Times*, 29 April 2003, home ed., A.1. ; Charles Piller, “Last SARS Hot Spot Contained,” *Los Angeles Times*, 6 July 2003, home ed., A.1.



Masked Asian girls also configure SARS risk. Image 4.22’s caption reads: “A TUTU...AND A MASK: Ballet students protect themselves from the SARS virus during a dance lesson in Hong Kong, which has been hit hard by the pneumonia-like illness.”⁶⁸⁵

Image 4.23's caption reads: "SAFETY FIRST: In Taipei, a young girl takes care to escape infection as she walks to her elementary school."⁶⁸⁶ These images collide the realm of innocent childhood, such as young girls in tutus practicing ballet, with the symbolism of face masks.

Images 4.22 (left) and 4.23 (right) are examples of the "Masked Asian Girl"

Source: Tyler Marshall, Richard C. Paddock, and Anthony Kuhn, "The World; Vietnam First to Contain SARS," *Los Angeles Times*, 28 April 2003, home ed., A.1. ; Geoffrey Cowley and Anne Unerwood, "How Progress Makes Us Sick," *Newsweek* 141, no. 18 (5 May 2003): 33.



A TUTU . . . AND A MASK: Ballet students protect themselves from the SARS virus during a dance lesson in Hong Kong, which has been hard hit by the pneumonia-like illness.



SAFETY FIRST: In Taipei, a young girl takes care to escape infection as she walks to her elementary school

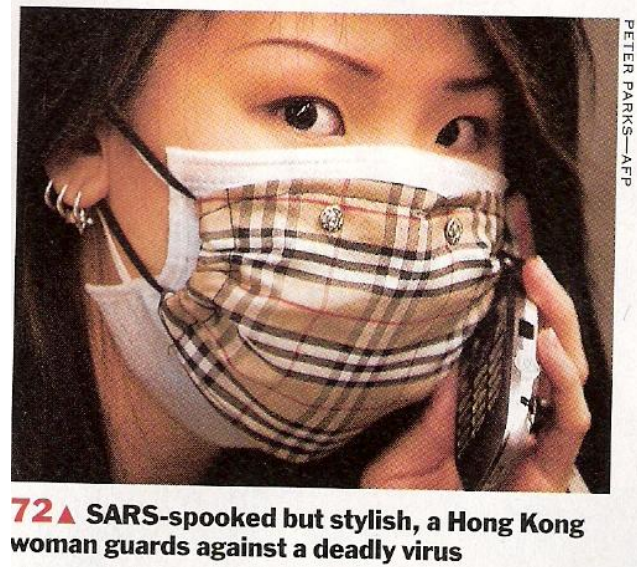
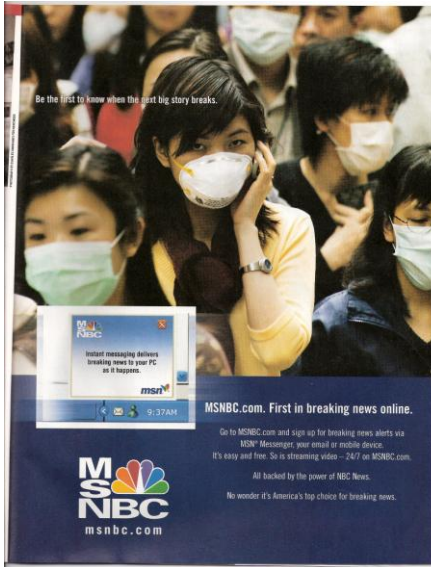
Fourth, the masked Asian woman is commodified or part of the commodification of SARS risk. Image 4.24 is an advertisement for *MSNBC.com*. The young masked Asian woman is in a crowd of other masked Asian women. She is the central focus of the photograph, as she is the only figure who stares straight into the camera. She holds a cell phone to her ear. The copy reads:

Be the first to know when the next big story breaks. Go to MSNBC.com and sign up for breaking news alerts via MSN messenger, your email or mobile device. It's easy and free. So is streaming video—24/7 on MSNBC.com. All backed by the power of NBC news. No wonder it's top choice for breaking news.⁶⁸⁷

The masked Asian woman, as a visual symbol, is commodified. She is used as an advertising image to market mainstream news media. Image 4.25 is a photograph of a young Asian woman, holding a cell phone to her ear, looking straight into the camera.

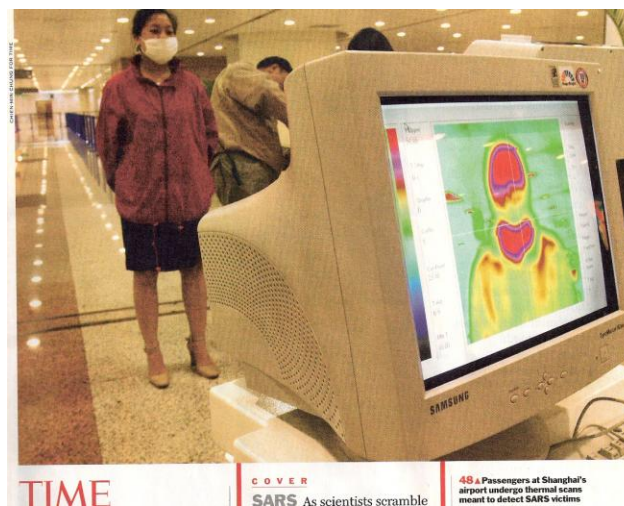
She is accessorized in a Burberry design-inspired face mask. The caption reads: “SARS-spooked but stylish, a Hong Kong woman guards against a deadly virus.”⁶⁸⁸ The face mask is commodified as a high fashion-inspired accessory.

Image 4.24 (left) and 4.25 (right) are examples of the commodified “Masked Asian Woman”
Source: MSNBC Advertisement, *Newsweek* 141, no. 18 (5 May 2003): 55.; “Table of Contents,” *Time* 161, no. 15 (14 April 2003): 4.



Finally, the masked Asian woman’s identity as a *risky subject* is produced via technology that makes visible what is normally invisible to the naked eye. *Time* publishes Image 4.26 in its table of contents. The caption reads: “Passengers at Shanghai’s airport undergo thermal scans meant to detect SARS victims.”⁶⁸⁹ In the foreground, we see a colorful thermal image displayed on a computer monitor. The thermal image is of the young masked Asian woman in the background. She is dressed in a red jacket, above-the-knee skirt, and heels. She is produced as a visibly knowable object of SARS scrutiny via biomedical and defense technology. Not only is her body presented as evidence to surveillance personnel but to media consumers.

Image 4.26: The “Masked Asian Woman’s” risk status made knowable through visual technology
Source: “Table of Contents,” *Time* 161, no. 18 (5 May 2003): 5.



Masked White American: Responsible At-Risk American Public. All three U.S. mainstream news magazines feature masked white human figures as their cover images in the same week, May 5th, 2003 (Images 4.27, 4.28, 4.29). The figures are gendered both feminine and masculine. Mainstream news media’s audience is to identify with these startling and terrifying images and to project their anxieties onto these visual representations. The American public is to identify with these images as *at-risk subjects*. They are all similarly composed. The predominant images are faces, raced-nationed as white Americans and gendered both masculine and feminine, with intense stares into the cameras. Covering the nose and the lower half of the face is a white face mask. Cover copy is superimposed on the masks. The copy, printed in black and red and frequently in a capital letters, grasps the reader’s attention as *responsible at-risk subjects* interested in fulfilling expectations to seek SARS-related knowledge, practice self-prevention, and heed the advice of public health authorities:

- THE TRUTH ABOUT SARS. WHY the virus spreads. China’s COVER UP. How SCARED should you be?⁶⁹⁰

- SARS. What you need to know. The new age of epidemics.⁶⁹¹
- SARS HITS HOME. HOW IT SPREADS.WHERE IT CAME FROM. HOW TO FIGHT IT.⁶⁹²

Images 4.27 (left), 4.28 (center), and 4.29 (right): *Masked White American* as the at-risk subject
 Source: “Cover,” *Time* 161, no. 18 (5 May 2003): Cover.; “Cover,” *Newsweek* 141, no. 18 (5 May 2003): Cover.; “Cover,” *U.S. News & World Report* 134, no. 15 (5 May 2003): Cover.



Visual Images: Summary of Results

This study’s visual discourse analysis of SARS images takes a grounded theory approach. Several concepts appear central throughout SARS discourses. First, visual images serve as evidence that position public health research and science as producers of SARS knowledge and, thus, as scientific authorities. Visual representations of epidemiological data appear to document the science arena’s hard work in the midst of uncertainties. Images generated from biomedical and defense technologies produce human objects of SARS scrutiny as visually knowable to public health authorities and readers. In turn, they discursively construct *risky subjects* and frequently race-nation-gender these *risky subjects* as feminine and Asian. Visual representations of numerical data similarly position public health and science as SARS authorities and race-nation

risky spaces and places as overwhelmingly Asian. Second, well-known works of art situate SARS discourses within a broader narrative of masculine humanity's constant struggle against a feminine nature. Third, photographs of wild animals and food markets in China accompany articles about the search for the origins of SARS. These images represent the dangers of *close animal-human proximity* and contribute to the discursive construction of China as a *risky space and place*, as peculiar in its "exotic" culinary habits, and as irresponsible to the global community due to an unsanitary food industry that spawns deadly infectious diseases. Fourth, film stills included in reviews of science-fiction films situate SARS discourses within the *public imagination of fictional post/apocalyptic stories*, in which humanity's imminent end culminates from man's struggle with either a virulent nature or the ultimately disastrous merging of human biology and technology.

Masks and the metaphor of un/masking is a central element in SARS discourses. Visual images that highlight this contribute to a number of themes. The principle configuration of SARS is a trio of human-technology figures: *unmasked white man*, *masked Asian woman*, and *masked white American*. First, photographs of public health experts, authorities, and government officials overwhelmingly represent these human roles as unmasked white men. Representations of Asian women, whether masked or unmasked, are almost completely absent in these leadership roles. On the other hand, images of masked Asian women and girls far outnumber any other un/masked-race-nation-gender category of visually represented non-experts and non-authorities. Third, the masked white American human figure is featured as the cover image in each of the three U.S. mainstream news magazines in the same week. These cover images identify

their readers as *at-risk subjects*. This trio of visual images embodies many of the claims constructed in these social worlds' SARS discourses. *Technoscientific race-nation-gender formations* are produced as configurations of anxious, contested boundaries.

Chapter 5: Discussion and Conclusion

This study's main objective is to analyze public health urgencies as socio-cultural phenomena produced in public health discourses with a focus on severe acute respiratory syndrome (SARS). Five research questions guide this study: (1) What claims do different social worlds make to constitute public health discourses that produce biopolitical subjects in raced-nationed-gendered formations? (2) What are the central concepts in each social world's SARS discourse? (3) In what ways is the socio-cultural construction of risk central to the discursive construction of SARS? (4) In what ways does each of the social worlds produce biopolitical subjects in raced-nationed-gendered formations? and (5) What are the underlying public health ethics in SARS discourse?

In this chapter, I discuss for each social world's SARS discourse the major themes uncovered in the science, media and public policy worlds and show how these worlds produce discursive constructions of risk, and the ways in which biopolitical subjects are produced in raced-nationed-gendered formations. In a shift from SARS discourses produced by separate social worlds, I move towards a synthesis of concepts and discursive frames into an overall SARS discourse. As similar theoretical conversations occur across worlds, I place major themes in the overall discourse in dialogue with particular perspectives in the contributing literature.

Overall SARS discourse is built upon a foundation of oppositions that manifest through several discursive frames: (1) *war on SARS*, (2) *ir/responsible global biopolitical citizenry*, (3) *SARS risk discourse*; (4) *oppositional metaphors and analogies*; (5) *biopolitical subjectivity in the "new normal,"* and (6) *face masks and un/masking*. In

confluence, these frames yield a *trio of human-technology figures*. I consider this *trio* as, not only a configuration produced in SARS discourse but, an analytic construct in an APACrit-informed, feminist technoscience approach to public health discourse analysis. An interrogation of the *trio of technoscientific race-nation-gender* formations provides insight into SARS discourse as an ideological site with ethical and social in/justice implications. As an expression of public health ethics, SARS discourse manifests ethical tensions in relation to theorizations of justice. It simultaneously produces two moments. First, SARS as a crisis situation operates upon a utilitarian framework that justifies civil liberty infringements for the public good by excluding marginalized groups from the national body. Second, SARS as the “new normal” offers biopolitical subjects “free choice” through technological means. However, this liberalism of “free choice” is a façade for biopolitical subjects operating within discursive frames of *risk* and *ir/responsibility*. Normative foundations of utilitarianism and liberalism, along with discursive displays of professional ethics, undergird the public health ethics of SARS discourse.

Major Frames by Social Worlds

Central concepts in government-science’s SARS discourse position *public health organizations* as authoritative and transparent leaders in global and national SARS response. They regularly update clinical and epidemiological descriptions, issue travel advisories and infection control guidelines, and publish visual images as evidence of their hard work and expert status. In doing so, they assemble a *SARS risk discourse* that produces *SARS cases* as *risky subjects* that are de-raced, de-gendered/sexed, and de-

nationed in the written text. In its visual representations, however, SARS cases in the U.S. are enumerated by either sex/gender or race. The raced-nationed-gendered body, particularly of the Asian woman, is made visually knowable as scientific evidence. *Risky spaces and places* are raced-nationed as Asian. *Risky activities* hinge upon crossing borders that demarcate *risky* from *at-risk*. Combined with the metaphor of *nature's threat to human progress*, SARS risk discourse situates public health organizations as representative of human progress and Asia/Asians as implicitly to blame for spawning threats from nature. This SARS discourse expresses a *professional ethics* which guides professional codes of conduct to ensure society places moral trust in its public health authorities.⁶⁹³

Central concepts in non-government-science's SARS discourse depict the *science arena*, excluding China's public health system, as praiseworthy for its collaboration, dissemination of SARS-related research, and protection of the *public* as *at-risk subjects* from "SARS risks." In doing so, it assembles a *SARS risk discourse*, introduces discourses of *ir/responsibility*, describes *dangerous animal-human proximity*, and uses *oppositional metaphors* to produce particular formations of race, nation, and gender. In its metaphors, the heroic protagonist is played by a masculine science arena, and the antagonist is played by a feminine "SARS risk." *Risky spaces and places* and *risky matter* are literally nationed as Asian. *SARS cases* that are gendered and *raced-nationed* as *Asian women and men* are presented as blameworthy points of imported SARS infection. In contrast, *SARS cases* gendered as men and *raced-nationed* as *not-Asian* are put forth as members of the science arena with human, even heroic, subjectivities. Visual images race-nation-gender *risky* and *at-risk subjects* as the *masked Asian woman* and

mark her as knowable through military technology. This SARS discourse expresses a *professional ethics* that positions the science arena as praiseworthy authority, deemed especially heroic and indispensable during a crisis situation in which utilitarianism prevails.

Whereas the media are generally absent in other social worlds, mainstream news media positions themselves, their readers, and public health organizations as significant through its discursive frames: the *war on SARS*, *oppositional metaphors*, *SARS risk discourse*, *ir/responsible global biopolitical citizenry*, *biopolitical citizenry in the “new normal,”* and *face masks and un/masking*. Through these frames, journalists credit themselves and the media for exposing China as an *irresponsible risky nation-state*. Readers are addressed as *responsible at-risk subjects*. Public health organizations are depicted as *heroes* who defend the nation against *SARS risk*, an enemy threat raced-nationed as Asian. *Risky spaces and places* are raced-nationed as Asian, and *at-risk spaces and places* are raced-nationed as *not-Asian*. Only in this social world are the experiences of non-expert/official biopolitical subjects presented from first-person perspectives. The principle visual embodiment of SARS is a *trio of human-technology figures*: (1) unmasked white men, (2) masked Asian women, (3) and masked white Americans. In the “*new normal*,” race-nation-gender formations of *ir/responsibility* and *risk* are tied to biopolitical subject formations of *risky*, *at-risk* or *not-risky*, of *responsible* or *irresponsible*, and of uncertain risk identity. These formations are tied to biopolitical choices to *un/mask* and to the ways in which subjects interpolate masks as technology and symbols. This SARS discourse establishes both a crisis situation that legitimizes

utilitarianism and a “new normal” that highlights the liberalism of free biopolitical choice as a key public health intervention.

Central concepts in government-public policy’s SARS discourse depicts the science and public policy arenas as authoritative leaders in SARS response, as defenders of national security, and as protectors of the American public. In doing so, this social world expands three discursive frames. First, the *war on SARS* grounds oppositional metaphors within the political economy of post-September 11th U.S. Homeland Security. Second, *ir/responsible global biopolitical citizenship* classifies SARS responses, such as transparency and collaboration, as responsible or irresponsible on levels of the nation-state and individual. Third, in its *SARS risk discourse*, intervening entities—such as public health organizations, U.S. Congress, and private industries—produce themselves as masculine, heroic, and responsible global biopolitical citizens at war with a feminine, cowardly, risky, and irresponsible enemy. By producing itself as a responsible leader, this social world’s SARS discourse expresses a professional ethic that intends to garner public trust. Biopolitical choices, such as self-policing, are emphasized as public health interventions in its construction of responsible citizens at the individual level. Finally, it establishes “SARS” as a crisis situation that facilitates utilitarian arguments.

Overall SARS Discourse: Trio of Human-Technology Figures as Analytic Construct

As Palumbo-Liu introduces “Asian/American” as an analytic construct with which to theorize Asian American subject formations in literary texts, I introduce the *trio of human-technology figures* as an analytic construct with which to theorize formations of race, nation, and gender in the overall SARS discourse. As an ideological site, the

construction of public health urgencies is a race-nation-gender project that produces configurations of biopolitical subjects as *technoscientific race-nation-gender formations*—a feminist technoscience, Asian Americanist critical race studies elaboration on Omi and Winant’s *racial formations* and *racial projects*. It rejects essentialist notions of race, nation and gender. It approaches the knowledge production of public health, science and technology as sites for anti-racist, feminist analysis. It illuminates the production of public health urgencies as discursive processes that shape meanings, as well as assign normative values to, oppositional dominant and subordinate categories.

The principle configurations in SARS discourse is the following trio of human-technology figures: the *unmasked white man*, the *masked Asian woman*, and the *masked white American*. When three discursive frames—*war on SARS*, *SARS risk discourse*, and *ir/responsible global biopolitical citizenry*—are placed in concert through this trio as an analytic construct, the oppositions they configure become more apparent (see Figure 5.1).

The *unmasked white man* visually and discursively embodies: the masculine hero, mankind and human progress, science, the West, Homeland Security, intervening entities who use research and technology as risk countermeasures, and responsible global biopolitical nation-states. This figure specifically consists of: *public health organizations*, the praised *science arena*, *health-care workers*, *U.S. government agencies and officials*, *global public health community (excluding China)*, *U.S. Congress*, *state health departments*, *private industries*, and *American journalists*.

The *masked Asian woman* visually and discursively embodies: the feminine cowardly enemy, Mother Nature’s threats, bioterrorist and national security threats, dirtiness and the exotic, the East, accused criminal, and hunted prey. With respect to *risk* and

ir/responsibility, she is a configuration of risky subjects, risky spaces and places, risky matter, risky business, risky national/human bodies, invisible SARS risk, not-risky subjects, irresponsible risky nation-states and individuals, and responsible risky individuals. This figure specifically consists of: *SARS cases, high-risk areas, high-risk procedures, body fluids of SARS cases, exotic animals, SARS coronavirus, aircraft cabin air, foreign students, risky travelers, Chinatowns, China*, and responsible risky *biopolitical subjects* who contain bodily risks through the use of technologies.

The *masked white American* visually and discursively embodies: the Homeland in need of defense, at-risk subjects, at-risk spaces and places, at-risk national/human bodies, and responsible at-risk individuals. This figure specifically consists of the *American public, American travelers, American communities, health-care workers, close contacts, innocent young children and protective mothers, American media consumers, “good [American] citizens,”* and responsible at-risk *biopolitical subjects* who practice self-prevention through technology. In addition, these human-technology figures are further defined by the following discursive frames—*oppositional metaphors and analogies, biopolitical subjectivity in the “new normal”* and *face masks and un/masking*—as technoscientific formations or cyborgs.

Paying attention to the *otherworldly and apocalyptic imagery* present in mainstream news media provides insight to what is at stake. Allusions to monsters and aliens hint at the frightening possibility that the enemy will declare victory over the hero and the ultimately indefensible homeland. However, the visual representation of the masked human figure as the embodiment of a “new normal” suggests that the war itself is the end. Science-fiction allusions and oppositional analogies in public health discourse

Figure 5.1: The “Trio of Human-Technology Figures” as configurations across discursive frames.

Discursive Frame	Trio of Human-Technology Figures		
	Unmasked White Man	Masked Asian Woman	Masked White American
<i>War on SARS</i>	<ul style="list-style-type: none"> • <i>public health organizations; science arena, excluding China; health-care workers, U.S. government, journalists</i> • masculine hero • mankind and human progress • Homeland Security • human • West • disease detective • hunter 	<ul style="list-style-type: none"> • <i>SARS cases</i> • Feminine, cowardly enemy • Mother Nature’s threats • bioterrorist and national security threat • animal, unsanitary, exotic • East • accused criminal • hunted prey 	<ul style="list-style-type: none"> • <i>the public</i> • Homeland, in need of defense
<i>SARS Risk Discourse</i>	<ul style="list-style-type: none"> • <i>public health organizations; U.S. federal government; state health departments; U.S. Congress; U.S. government officials; U.S. customs and border personnel; education institutions; private industries</i> • intervening entities 	<ul style="list-style-type: none"> • <i>SARS cases; high-risk areas; high-risk procedures; body fluids of SARS cases; exotic animals; SARS virus; aircraft cabin air; foreign students; risky travelers; Chinatowns</i> • risky subjects • risky spaces and places • risky matter • risky business • risky national/human bodies • invisible SARS risk knowable through visual technology • not-risky subjects: risky biopolitical subjects who assert not-risky status, often through the use of visual technology. 	<ul style="list-style-type: none"> • <i>American public; American travelers; American communities; health-care workers; close contacts; innocent young children and protective mothers</i> • at-risk subject • at-risk spaces and places • at-risk national and human bodies
<i>Ir/Responsible Global Biopolitical Citizenry</i>	<ul style="list-style-type: none"> • Responsible nation-states: <i>U.S. government and global public health community (WHO and CDC), excluding China</i> • Responsible risky nation-state: <i>Vietnam</i> 	<ul style="list-style-type: none"> • Irresponsible risky nation-state: <i>China</i> • Irresponsible risky individuals: <i>SARS cases (first and index cases)</i> • Responsible risky individuals: biopolitical subjects who contain bodily risks through voluntary quarantine and technology (masks) 	<ul style="list-style-type: none"> • Responsible at-risk individuals: <i>American media consumers; “good [American] citizens”</i>; biopolitical subjects who seek information, follow public health advice, self-surveil and self-police, and engage self-preventative technologies (masks)

that race-nation enemy threats as Asian are with precedent. For example, Kirsten Osterr observes related analogies in post-World War II, U.S. public health films that present the threat of viral contagion through analogies to foreign military invasion and extra-terrestrial alien invasion. National security threats in these films rely upon World War II-era, anti-Asian racializations.⁶⁹⁴ The couching of associations between viral contagion, foreign military threat, and alien invasion in anti-Asian sentiment continues in SARS discourse. With respect to the mainstream news media's association between SARS and science-fiction/horror films, cyborgs destructively reign in the cinematic post-apocalyptic world.

Positioning the cyborg as a bleak emblem of human-technology gone awry is significant. In SARS discourse, the un/masked human-technology figures are cyborgs. Un/masked human figures discursively embody the dueling technophobia and technophilia of SARS as a public health urgency. With respect to technophilia, face masks represent hope and faith in science and technology as weapons in victorious war against SARS. On the other hand, with respect to technophobia, face masks and un/masking signify moments of anxiety and fear. However, this anxiety pivots not solely upon an absence of scientific faith, rather it captures the uncertainties of the "new normal." Has the cyborg as normal arrived? If so, the dreaded apocalypse may not loom; it may already be. The cyborg is more than a sci-fi, pop cultural artifact. In the next section, I develop the *masked Asian woman* further as an analytic construct and reconceptualize her as the *masked Asian/American woman* and as cyborg.

Masked Asian/American Woman as Cyborg

As configurations and analytic constructs, the *unmasked white man*, the *masked Asian woman*, and the *masked white American* are produced as technoscientific race-nation-gender formations in SARS discourse. The significance of each figure resides in its relation to the triad. Taking an APACrit-informed, feminist technoscience approach to public health discourse analysis, I position the *masked Asian woman*, reconceptualized as the *masked Asian/American woman cyborg*, as an analytic window through which to consider the political, socio-cultural, historical, and ethical meanings of SARS discourse.

Drawing from Asian American critical race studies' theorizations on Asian/American subject formations, Jean Baudrillard's "single atemporal virtuality," and Nicholas King's post-colonial global health, I shift the *masked Asian woman* towards a conceptualization of the *masked Asian/American woman*. This study's analyzed data sources represent SARS discourse for U.S. consumption. At the representational level, photographs of *masked Asian women* were not taken in the United States and were, in fact, mostly taken in Asia. However, the *masked Asian woman*, at the discursive level, is a configuration that race-nations Asian and genders feminine. I use *race-nation* to denote the implicit and ambiguous race-nationing of SARS cases as primarily Asian, regardless of nationality. Asian Americanist critical race scholars present various theoretical tools to interrogate constructions of race and nation. For example, Palumbo-Liu introduces "Asian/American," Li offers "Asian American abject," and Chuh considers "Asian American" not a positivist identity but a critical lens. This line of scholarship rejects "Asian American" as a descriptor of an essentialized racial group. Instead, it stresses

configurations of “Asian American” or “Asian/American” as manifestations of a national identity project that defines itself against its construction of the Asian other.

Baudrillard, in a critique of Disneyworld and media coverage of the Gulf War, argues that aspects of reality—such as “History,” “depth of time,” and “three-dimensional space”—that characterize modernity are replaced by post-modernity’s discursive formations, such as “single atemporal virtuality.”⁶⁹⁵ Modernist aspects of reality give way to a hyper-reality where events simultaneously occur everywhere and nowhere. This concept extends to SARS discourse for U.S. consumption. SARS coverage, in a hyper-reality where time-space is compressed, produces a public health urgency through “surface” images with no depth, that instantaneously occur everywhere and conflate Asians in Asia with Asians in America. This elision of space between Asia and America, the erasure of borders that demarcate the two, and the deletion of distance all exacerbate unease over risky borders and, in turn, constructions of national identity.

In tracing the shift from colonial-era global health, King considers Western public health, national security, and international commerce closely associated to colonialist projects that were once and are still preoccupied with boundaries, such as those separating racial groups and nation-states, and origin stories that locate source of infectious diseases *out there*, that is in less civilized nations. During the late 20th century, colonial-era global health gave way to a postcolonial “emerging diseases worldview.” The colonialist fixation on territorial border security was supplanted by “vast networks” that are “not only conduits of infection but also prophylactic tools.”⁶⁹⁶ Globalization and the rapid mobility of risky bodies and microbes are seen as rendering modern boundaries

meaningless, thus calling forth a need for a global information and surveillance system that rapidly identifies and manages risks. He states:

Replacing the utopian medical micro-colony is an ideal of a utopian biomedical macro-colony, in which global surveillance networks allow risks to be identified and managed quickly and efficiently. While colonial anxiety revolved around fears of contamination as certain (white, European, male) bodies moved into vulnerable places and faced novel contaminating environments and (non-white, non-European, female) peoples, postcolonial anxiety revolves around the contamination of space itself by mobile bodies and mobile environments. This is not the horror of matter (or bodies) out of place, which presupposed the identification of a place for matter; instead, it is the horror of places no longer mattering, of a *'third-worlding' at home*.⁶⁹⁷ (emphasis mine)

The *masked Asian/American woman cyborg* is a configuration of postcolonial global public health anxiety that fears the “third-worlding’ at home.” I compress the *masked Asian woman* and the *masked Asian American woman* into the *masked Asian/American woman* as a formation that acknowledges “Asian/American” as a critical race construct, post-modernity’s hyper-reality as an implosion of modernist time-space boundaries that demarcate America’s nation-form identity from Asia, and post-colonial anxiety over the “horror of places no longer mattering.”

The *masked Asian/American woman* is a cyborg. Haraway’s cyborg is an amelioration of three border wars: (1) animal and human, (2) animal-human (organism) and machine, and (3) physical and non-physical.⁶⁹⁸ The *masked Asian/American woman*, as a configuration of *dangerous animal-human proximity*, blurs boundaries between animal and human. As a configuration of *risk* and *ir/responsibility*, she is human-technology figure who blurs organism and machine as a *risky subject* who *un/masks*. Third, the border between what is physical and non-physical in Haraway’s cyborg is exemplified by modern machineries that operate on atomic levels, in particles, waves, and signals that literally complicate what is matter and non-matter.⁶⁹⁹ While not

necessarily on the atomic level, the making of *SARS cases* involves biomedical technologies that operate on genomic levels and that render the invisible viscera visible as evidence. As a cyborg, she is a configuration of these three border wars—animal versus human, biological organism versus technology, and the visible versus the invisible.

Cyborg politics moves beyond essentialist identity politics. Haraway states: "...it might be the unnatural cyborg women making chips in Asia...whose constructed unities will guide effective oppositional strategies."⁷⁰⁰ The *masked Asian/American woman* as a cyborg is a "constructed unity" configured through SARS discourse. In relation to critical race studies, Kang defines the genealogy of Asian American women as:

modes of exclusion, detention, segregation, deportation, and denaturalization of the Asian female from the U.S. citizenry [that] bring[s] 'Asian American women' into critical relief *not* as a descendant grouping of single origin but rather as a tenuous identification situationally congealed and then too internally differentiated—according to nationality, class, sexuality—through a disconnected, even haphazard jumble of cultural constructions, local and federal legislations, and enforcement mechanisms.⁷⁰¹

Asian American women as objects of study are not pre-formed entities, rather they are "constructed unities"—or cyborgs with oppositional consciousness. The cyborg disrupts "the ontology grounding 'Western' epistemology" and challenges disembodied scientific objectivity which reifies scientists as omniscient and god-like and objects of knowledge as already existing and lacking agency.⁷⁰² In SARS discourse, the *unmasked white man*—the discursive embodiment of public health organizations and the science arena—is decidedly not omniscient or god-like; however, he is an authoritative, responsible leader due to evidence of heroic work, transparency, open communication, and collaboration. The *masked Asian woman*, as a SARS case, functions as an object of

knowledge, already pre-existing due to an entrenchment in the historic cultural imagery of Asian/American women.

Feminist objectivity recognizes one does not know objectively but partially, that there is a partial connection or relation to the object of knowledge, and that the knower should assume responsibility for knowing. Such knowledge is considered situated knowledge as it accounts for one's location and accountability. Feminist objectivity transforms science:

Science becomes the myth not of what escapes human agency and responsibility in a realm above the fray, but rather of accountability and responsibility for translations and solidarities linking the cacophonous visions and visionary voice that characterize the knowledges of the subjugated.⁷⁰³

Can the *masked Asian/American woman* as a cyborg offer, as Haraway states, “better accounts of the world, that is, ‘science?’” I recognize the distinction between *the masked Asian/American woman* as a configuration at the discursive level and as a physicality in the material world. However, even at the discursive level, the *masked Asian/American woman* as an analytic construct, in an APACrit-informed feminist technoscience approach, offers “better accounts” of public health as SARS discourse that articulates a public health and social in/justice ethic.

SARS Discourse as Public Health Ethic

Public health discourse is not mere representation; it is an articulated ethic of the public health system with social in/justice implications. At discursive and representational levels, public health discourse is a dimension of public health policy and thus subject to public health ethics analysis. An analysis of the underlying ethical foundations in public health discourse draws from both public health ethics scholarship

and normative perspectives. As scholarship in public health ethics and normative political philosophy propose meanings of justice, APACrit suggests “outsider jurisprudence” as a theorization of justice, rights, and responsibilities that takes into account the experiences, ways of knowing, and historic marginalizations of racialized, nationed, and gendered populations.

Iris Marion Young considers issues of justice inextricable from social structures that exist as structural processes:

Justice and injustice concern primarily an evaluation of how the institutions of a society work together to produce outcomes that support or minimize the threat of domination, and support or minimize everyone’s opportunities to develop and exercise capacities for living a good life as they define it.⁷⁰⁴

She asks how moral agents should think about their responsibilities in relation to structural social injustice. As the dominant concept of responsibility, the liability model assigns blame to moral agents at fault for causing harm. The liability model shares similarities to SARS discourse’s assignment of ir/responsibility to risky and at-risk subjects. However, SARS discourse does not approach its human elements as moral agents with responsibilities to structural social in/justice. Rather, it frames its human elements as risky and at-risk subjects who have responsibilities in relation to the containment of individual bodily risks. As a challenge to the liability model, she considers the political responsibility model more conducive to structural justice; it addresses structural causes of injustice and refrains from assigning blame and fault to actions that deviate from acceptable behavior. SARS discourse does not manifest itself as a structural process concerned with justice; rather, it is concerned with the reification of U.S. and ally-centered arenas of science, public policy, and media as significant intervening entities in SARS risk through research and technology, Homeland Security

funding and open communication to the U.S. public, and daring journalistic exploits that “un/mask” China’s “dangerous secrets.” According to Young, “persons who benefit relatively from structural inequalities have special moral responsibilities to contribute to organized efforts to correct them, not because they are to blame, but because they are able to adapt to changed circumstances without suffering serious deprivation.”⁷⁰⁵ Do science, public policy, and media arenas have special moral responsibilities to challenge and/or rework discursive frames that produce the *masked Asian/American woman* as a configuration of, for examples, SARS risk, femininized terrorist, feminized “Oriental” nature, and national security and public health threats? A theory of political responsibility analogous for SARS discourse could draw from an APACrit-informed public health ethics.

While I recognize distinctions between lived material realities and discursive representations, I subscribe to Haraway’s “material-semiotic” conception of the world and Bono’s description of human interactions as “embodied metaphors-in-action.”⁷⁰⁶ A public health discourse analysis is an inquiry into the material-semiotics of the public health system; it is an inquiry into public health discourse as an ideological site and as informal public health policy. Blakely defines public health policies:

Public health policies could be formal laws or acts, or informal action in response to the disease. They could consist of course of action as simple as a mediated message by health officials about how a hospital would manage patients, to a law with some sort of penalty to enforce a specific action. This was especially applicable to U.S. public health policy, where the system is not a national one.⁷⁰⁷

This conceptualization of public health policies contrasts with Jane Brown and Kim Walsh-Childers approach to media and public policy. They find that news influences on public health policies “must be considered unintended effects,” as “news organizations

rarely acknowledge publishing or broadcasting stories with the intent to influence public policy.” While Blakely considers media messages partially constitutive of public health policies, Brown and Walsh-Childers more narrowly approach what constitutes policies.⁷⁰⁸ This study subscribes to Blakely’s definition of public health policies.

The trio of human-technology figures—as an analytic construct—provides a window into the political, socio-cultural, and ethical meanings of SARS discourse as informal public health policy. SARS discourse simultaneously produces two spatial-temporal moments—a “crisis situation” and a “new normal”—that put forth ethics of utilitarianism and liberalism.

SARS as Crisis Utilitarianism

The “crisis situation”—discursively constructed through the *war on SARS*, *SARS risk discourse*, and *ir/responsible global biopolitical citizenry*—is characterized by warring factions, ascribed blame and irresponsibility to enemy threats, heroics, scientific and technological weaponry, a public in need of defense, and dire consequences to humanity. Public policies are justified as interventions for the public good. In this crisis situation, the public in need of defense—the Homeland, the at-risk subject, the public’s health and national security—is universalized into a seemingly non-contextualized national body. Non-government-science, government-public policy, and mainstream news media directly address and absorb readers through the use of second person “you” and first person plural “we.” The *unmasked white man*, in other words, intervenes for a public good that is embodied by the *masked white American*. The national body is raced-nationed as responsible, at-risk white Americans. The intervening entity is raced-nationed-gendered as responsible masculine heroes and as government, scientific, and

public health leaders. The crisis from which the *unmasked white man* protects the *masked white American* is configured as the *masked Asian/American woman*. She embodies SARS risk, the irresponsible and blameworthy origin of emerging infectious disease, and the feminine bioterrorist threat. She is distinct from the white American Homeland that is in need of defense.

That these elements—the intervening entity, the public good, the SARS risks—are discursively raced-nationed-gendered is integral to the utilitarian framework of SARS as a crisis situation. Utilitarianism is a consequentialist ethical framework. It measures the utility of an action by its consequences, eschewing intentions as devoid of value. John Stuart Mill in *Utilitarianism* writes: “The creed which accepts as the foundation of morals, Utility, or the Greatest Happiness Principle, holds that actions are right in proportion as they tend to promote happiness, wrong as they tend to produce the reverse of happiness.”⁷⁰⁹ In other words, actions are moral and just if they result in the greatest good for the greatest number. Additionally, Mill quotes Jeremy Bentham—“everybody to count for one, nobody for more than one.”⁷¹⁰ Everyone has an equal claim to happiness. The strength in a utilitarian perspective rests in its seeming practicality, logic and equality. It assumes greater legitimacy in times of urgency or crisis. If a lethal threat is posed to all, then ends justify means. However, a contradiction is exposed in utilitarianism. Actions are justified if they result in the greatest good for the greatest number, and everyone counts as one and no one counts for more than one. False distinctions between persons and groups can not ethically be drawn. To value the happiness of one over another is contrary to utilitarianism. A tension exists between these two principles. The “greatest number” does not necessarily treat everyone equally.

SARS discourse's production of a crisis situation necessarily universalizes the public as a "we" and "you" that, at the same time, excludes those who do not belong to the national body. If "others" are not considered part of the public good, then utilitarian public health policies need not tend to their claims to happiness.

The *masked Asian/American woman* is a configuration of the following: feminine, cowardly enemy; Mother Nature's threats; bioterrorist and national security threat; animal, unsanitary, dirty, exotic; the East; accused criminal; hunted prey; and risky SARS threat. As cultural imagery, this configuration holds meaning as a continued narrative of "Asian American" and "Asian American women" in other social arenas. As discussed in Chapter Two, Asian Americans have been framed problematically as: the "yellow peril" and "Oriental problem"; threats from both abroad and domestically for white Americans; objects of separation, exclusion, and expulsion from the national body; "formal nationals and cultural aliens"; the "other" against which America's national identity is formed; depicted as dirty and unsanitary medical scapegoats; objects of racist public health and labor measures conducted under the guise of science; and enemy aliens. Asian American women have been raced, gendered, and sexualized as: depraved, degenerate, and threats to the physical vitality of the Anglo-Saxon civilization; sources of disease and contamination; and diseased prostitutes. On the basis of these constructions, they were historically excluded from American immigration and citizenship. According to Yen Le Espiritu, systems of oppression are kept in place by ideological justifications driven by "controlling images." She states: "...Asian women have been rendered both super feminine and masculine. Although in apparent disjunction, both forms exist to define, maintain, and justify white male supremacy."⁷¹¹ The *masked Asian/American woman* as

image and configuration is entrenched in these historic constructions of Asian American women.

Utilitarian public health ethics, produced as a crisis situation, justify civil liberty infringements for the common good. In this section, I step away from this study's analyzed texts and look to scholarship in public health ethics that address ethical tensions during times of national emergencies.

After the terrorist attacks of September 11th and the following anthrax attacks, the CDC released its first draft of the Model State Emergency Health Powers Acts on October 23, 2001. Under this model, state governments are given the authority to declare a "state of public health emergency" during which public health personnel can also order citizens to submit to mandatory examinations and treatment. If citizens refuse to submit, they can be subject to either quarantine or criminal punishment.⁷¹² This, along with President Bush's Executive Order that added SARS to the list of quarantinable communicable diseases on April 4, 2003, invokes fears reminiscent of the forced quarantining of Chinese Americans and razing of Chinatowns during early-1900s plague outbreaks in San Francisco and Honolulu.⁷¹³

Mariner et al connect civil liberty infringements during times of new epidemics to national security issues. During national emergencies, overreacting often occurs and constitutional rights are infringed upon even when in violation of established law.⁷¹⁴ They cite Fred Korematsu's amicus curiae brief in support of individuals detained in Guantanamo Bay without charges:

History teaches that, in time of war, we have often sacrificed fundamental freedoms *unnecessarily*. The Executive and Legislative Branches, reflecting public opinion formed in the heat of the moment, frequently have overestimated

the need to restrict civil liberties and failed to consider alternative ways to protect the national security.⁷¹⁵

The authors warn against America's seeming complacency to give up certain liberties in order to ensure safety and security during this Western "war on terror." Coercive measures have historically targeted those least able to defend themselves (immigrant groups, disadvantaged minorities, the poor, women sexualized as "tramps").

Contemporary anti-terrorist laws continue this trend by targeting marginalized groups.⁷¹⁶

Given this post-9/11 climate in which Americans approach the sacrifice of civil liberties as necessary for ensuring security, and contemporary anti-terrorist laws target the civil liberties of marginalized groups, the authors fear that legislatures, facing limited state funds, will "turn to laws that restrict personal liberty as a substitute for providing the resources necessary for positive public health programs that actually prevent disease and improve health."⁷¹⁷ In other words, government's protection of positive rights—the provision of positive public health programs—will be replaced with the state's infringement on civil liberties, infringements specifically directed towards those raced-nationed-gendered as Othered.

On the other hand, Bayer and Fairchild argue for the absolute necessity to infringe upon civil liberties during public health emergencies. They are committed to the:

conviction that at the core of public health practice is the charge to protect the common good, to intervene for such ends even in the face of uncertainty. This stance may, we believe, necessitate limits on the choices of individuals on grounds of communal protection against both hazard and paternalism.⁷¹⁸

Citing Lawrence Gostin's "Public Health Law in an Age of Terrorism," they contend that legal tradition and ethics support placing limits on individual rights during times of public health emergencies.⁷¹⁹ A tension arises between these two ethical approaches.

Mariner et al recognize the connections between civil liberty infringements during infectious disease outbreaks and national (in)securities. They are concerned that this comingling of public health and Homeland Security concerns will result in civil liberty infringements, prompted by decreased public health funding and resources, as substitutes for the actual implementation of “positive public health programs that actually prevent disease and improve health.” Furthermore, this dangerously “shifts responsibility for protecting the public health from the government to individuals and punishes those who are least able to protect themselves.”⁷²⁰ They advocate a public health ethic committed to equity.

In contrast, not only do Bayer and Fairchild not advocate a public health ethic committed to *equity*, they are not even proponents of a public health ethic committed to *equality*. They address the precautionary principle’s applicability during the SARS outbreak in order to justify a public health ethic that is “baldly paternalistic” in its civil liberty infringements. The precautionary principle “stipulates an obligation to protect populations against reasonably foreseeable threats, even under conditions of uncertainty.” Proponents of this principle justify its use in two ways: (1) the consequences of inaction are so great that focus should shift to justifying inaction and not action and (2) the potential burdens borne by “risky” entities as a result of interventions guided by this principle are justifiable as it is their risk that poses the potential problem.⁷²¹ Even if each individual does not pose significant enough risk, the collective risk posed by all individuals together justifies coercive measures. In other words, violating the civil liberties of those deemed “risky,” or even merely uncertainly “risky,” is justifiable as (1)

these “risky subjects” are the problematic threats and (2) government action in the face of risk need not be justified, rather it is inaction that must be explained.

The trio of human-technology figures embodies the tension between an advocacy public health ethic committed to equity and an ethic committed to justifying coercive measures and paternalistic civil liberty infringements of collective groups based upon tenuous designations of “risky.” The *unmasked white man* embodies the macro-social structure that implements policies and risk countermeasures. The *masked Asian/American woman* embodies the public health/national security threat or “risk.” The *masked white American* embodies Homeland security/public health, the public, and the common good.

SARS as “New Normal” Liberalism

SARS as the “new normal” ushers in a spatial-temporal moment characterized by a liberalism of “free choice.” The frames—*ir/responsibility at the individual level, SARS risk discourse, face masks and un/masking*—situate disease prevention and health promotion in the biopolitical subject’s realm of choice. The responsible global citizen chooses to seek SARS-related information, practice self-prevention, engage in self-surveillance and self-policing, and voluntarily contain bodily risks. Face masks and metaphors of un/masking signify technological choices as means through which risky and at-risk subjects choose responsibility or irresponsibility. This consumption of technology, including x-rays, is part of this “new normal”; masking is just another accessory in the biopolitical subject’s daily uniform in the war on SARS.

This shift in responsibility from government to individual is an aspect of Rose’s “risk politics” and “will to health” and Clarke et al’s processes of “biomedicalization.”

Within SARS discourse, ir/responsibility and risk status are raced-nationed-gendered through discursive frames that masculinize/Westernize the science and public health arena and feminize/Orientalize *SARS risk* and its configurations. The *face mask and metaphors of un/masking* are key technologies in self-governance and one's management of risk. Mariner et al stand in criticism of Homeland Security-induced public health priorities that "shift...responsibility for protecting the public health from the government to individuals" and punish "those who are least able to protect themselves."⁷²² This shift, an indication of the "new normal" in SARS discourse, is justified by the public health ethic proposed by Bayer and Fairchild.

Bayer and Fairchild seek a compromise between utilitarianism and liberalism. They call for a more extensive defense of paternalism that goes beyond protecting individuals from choices made within constrained structural situations and argue for a utilitarian and paternalistic approach that distrusts the choices and behaviors of the public. In contradiction, they also pose a liberal approach that seeks to protect freedom of choice. They state:

To a very large extent...the justification of public health measures, in general, must be baldly paternalistic. Their fundamental point is to promote the wellbeing of people who might otherwise be inclined cavalierly to court certain sorts of diseases. The challenge, we believe, for public health ethics is to define those moments when public health paternalism is justified and to articulate a set of principles that would preserve a commitment to the realm of free choice.⁷²³

However, what sort of "free choice" is possible for biopolitical subjects who are already raced-nationed-gendered as *risky* through discursive frames operating within a public health ethic that justifies coercive measures and paternalistic civil liberty violations, based upon only the mere "uncertainty" of risk? "Free choice" manifests differently according to a subject's social location and the community's historic public health

inequalities, such as a history of racist and sexist public health, labor, and immigration practices justified by “science.”

An egalitarian liberal approach sees “right to choice” as meaningless without the provision of positive rights to access and resources. Otherwise, individuals do not have fair equality of opportunity. This argument is similar to that made in APACrit—substantive rights over formal rights with respect to race. A public health ethic committed to social justice needs to advocate positive rights to health care and well-being.⁷²⁴ When an equitable public health ethic is not present, when the responsibility for health and well-being shifts from government to individuals, and when the threat of state coercion remains for those most surveilled, masking is then a *risky subject’s* desperate attempt to assert a less blameworthy status as, at least, a risky subject who is *responsible*. SARS discourse, as an articulation of a public health ethic, does not put forth “a set of principles that would preserve a commitment to the realm of free choice.” Rather, it articulates the guise of such through the discursive construction of un/masking as a “free” biopolitical choice.

The trio of human-technology figures provides an analytic window into the political, socio-cultural and ethical claims that government and non-government science, government-public policy and mainstream news media make in the formations of controlling ideological images. In his study of how categories of the person are negotiated through positron emission tomography (PET), Joseph Dumit contends that “We are at stake in this work.”⁷²⁵ How humans make sense of themselves and their world is at stake in relation to his study. In SARS discourse, what is at stake in the simultaneous reification and implosion of warring factions is dominant culture’s sense of

itself and its world. In this “new normal”—where naked unmasked faces inspire fear due to an inverted sense of what is human, what is technology, and what is natural—the warring factions in SARS as crisis situation implode. The *masked Asian/American woman* is a figure of this implosion. She is both risky and responsible. She is a bleak reminder that these warring metaphoric factions may never have been, nor ever will be distinct. Oppositional binaries—such as masculine/feminine, reason/nature, West/East, national security/enemy alien, American/Asian—through which dominant culture justifies its actions, may just be false after all.

This *trio of human-technology figures*—as the principle visual configuration of SARS discourse and as an analytic construct—emerges out of the dynamic processes of grounded theory. A grounded theory approach facilitates creative inquiries by extending and integrating new conceptual domains into existing understandings of a phenomenon. In this study, new conceptual relationships and inter-relationships have emerged from the systematic analysis of empirical data and less from theoretical deduction. The *unmasked white man*, *masked Asian/American woman*, and *masked white American* are technoscientific race-nation-gender formations in SARS discourse that extend current conceptualizations of public health urgencies as ideological productions that reify oppositional binaries along dimensions of race, nation, and gender. As a conceptual lens, it expands anti-racist feminist analysis into terrains of critique rarely traversed at the same time—that of public health ethics, feminist science studies, critical race studies, risk studies, social inequalities in public health, and media framing of disease.

In a visual discourse analysis of mainstream new media, the *Trio of Human-Technology Figures* emerges as the predominant embodiments. This study approaches

these visual images as principle configurations in SARS discourse and translates these configurations into an analytical construct through which to conduct an analysis of public health discourse that foregrounds discursive processes of technoscientific race-nation-gender formations. I focus specifically on the *masked Asian/American woman* as an analytical tool that provides particular insight into the political, socio-cultural, and ethical narratives that contour SARS discourse.

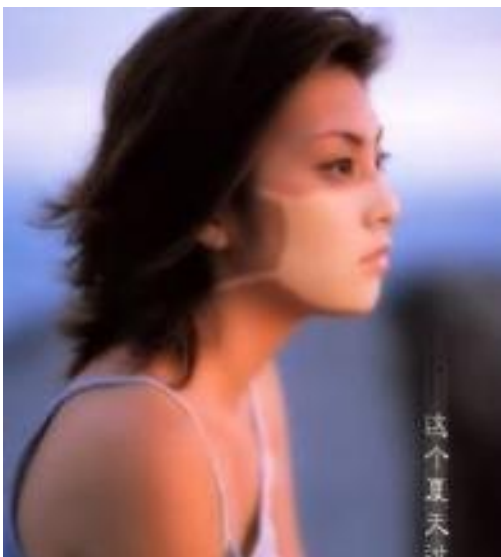
This study focuses on the institutional production of SARS discourse in science, public policy and mainstream news media. It asks what dominant culture has at stake in its ideological formations. First, it calls the *trio of human-technology figures* as witnesses to modernist binaries that frame public health and national security threats as Asian and feminine. SARS discourse is the latest wave of “Yellow Peril.” Second, media representations, most significantly visual images, embody enemy and disease threats in ways that dehumanize particular peoples and perpetuate ideological harms. In addition, although SARS was hardly a U.S. public health crisis, in terms of numbers of cases, SARS discourse reifies post-modern fears of ethnic- and immigrant-based pathologies and reasserts a tenuous U.S. national identity. Finally, dominant culture articulates a public health ethic preoccupied with securing a utilitarian collective good at the negated expense of the Othered and with individual responsibilities of risk containment. Biopolitical subjects are formed through their relations with science and technology, policies, culture, and ethics.

Future research should focus on the cultural productions of SARS discourse from other social arenas and worlds. As Haraway offers the cyborg ontology as oppositional consciousness that informs feminist political strategy, and as Lowe considers alternative

cultural productions as sites where marginalized groups negotiate their own sense of national identities and effect social change, future research should look to the alternative cultural sites of the *masked Asian/American woman*. For example, a future discourse analysis should look to alternative news media, such as *AsianWeek*'s SARS coverage, and artistic cultural productions, such as "Free?," a performance art piece by Kristina Sheryl Wong in which the playwright plays a SARS-paranoid daughter.⁷²⁶

In particular, the *SARS Digital Folk Art Project* deserves analytical attention. It is the visual images posted on this blog website, during the multi-country SARS outbreak in 2003, that initially piqued my interest in SARS discourse as a feminist, Asian Americanist object of inquiry. Digital productions, such as Images 6.1 and 6.2, were broadly circulated around the internet.

Images 6.1 (left) and 6.2 (right): Striking SARS digital folk art pieces that circulated the internet
Source: Amy Harmon. "Modes of Expression; Digital Artists find a Muse in SARS (And Each Other on the Internet)." *The New York Times*, Tuesday, June 15, 2003.; "SARS Digital Folk Art 'Z'," *The SARS Art Project* (19 June 2003), accessed 27 May 2008; available from <http://www.boingboing.net/2003/06/19/sars-digital-folk-ar.html>.



In Image 6.1, we see the profile of a young, attractive Asian woman materially without mask, but corporeally un/masked by a phantom tan line. Even without SARS-protective technology, she is symbolically marked. In Image 6.2, we see another young, attractive Asian woman in yet another state of undress. Hands on hips that are squared to the camera, she stands assertively. Above her face mask, her stare counters the viewer's gaze. She is scantily geared in only undergarments of masks. These images are exemplary components of visual discourses that frame SARS as a public health urgency through discursive formations of Asian/American women. What, about the discursive construction of SARS, lends meaning to the above images? For what reasons are un/masked, gendered, sexualized, Asian-raced figures emblematic of SARS as a public health urgency? If public health discourse were only conceptualized as published epidemiological research, then an analysis of the above visual images, for example, would be ignored.

A SARS discourse analysis—that is prompted by a conviction that discourse, including visual imagery, not only represents but partially constitutes material existence and injustice—approaches public health discourses as political, social, cultural, and ethical sites. Furthermore, “SARS discourse” can serve as a frame for interrogating the kinds of representational work done by technoscientific race-nation-gender formations in the nation's post-September 11th identity project. As a corollary to this study, future research should ask: What claims do subaltern social worlds make to constitute their SARS discourses? How are the discursive formations similar and different compared to those produced by dominant culture? What are the meanings of these alternative cultural productions? What kind of ideological work do they do?

This project's theoretical and methodological framework also translates to other public health discourse analyses. For example, the *trio of human-technology figures* can translate, with some modifications, to a discourse analysis of "infectious bacterial outbreaks in nail salons" as a discursively constructed public health urgency that produces technoscientific race-nation-gender formations. The *masked Asian/American woman*, as the *risky subject*, could be particularly useful in this study. The *masked white American*, as the at-risk subject, and the *unmasked white man*, as the intervening entity, could be further theorized as gendered, raced, nationed, sexualized, and classed. An APACrit-informed public health ethics approach to discourse analysis could make visible theorizations of justice in the realm of environmental health for gendered immigrant labor.

Contributions

This study contributes to knowledge in critical race studies, feminist studies of science, public health ethics, social inequalities in public health, and women's studies by demonstrating the richness of public health discourse as an object of inquiry and the necessity of a critical race, feminist technoscience, race-nation-gender analysis of ideological formations that have social justice implications. For the most part, a critical race theory perspective is applied to analyses of literature, history, legal texts and policies, and occasionally to films. This study contributes to critical race scholarship by expanding its objects of inquiry to include public health discourse. Most importantly, this study is one of the first to work towards an APACrit-informed public health ethic that can be used in an analysis of public health policies. This study also contributes to

existing scholarship on public health inequalities by highlighting ethics as foundational to how public health discourses produce and reproduce social inequalities.

Feminist science studies, while critical of “high technology medicine[’s]” drain of resources from other health care necessities, predominantly focus on biomedicine and only occasionally on public health explicitly.⁷²⁷ This study again expands the object of inquiry to include public health discourses. Second, feminist science studies are primarily focused on cultural artifacts as gendered processes. Formations of race and nation are engaged, though not as prominently as gender. Few interrogations specifically address formations of Asia/America, for example, through a technoscience lens. This study aims to approach public health discourses from a feminist science perspective that is informed by critical race studies. Third, this study is interested in how feminist technoscience perspectives can help ask— “...how assemblages of people and things together support individual identities, shape society and politics, and even determine what counts as nature”⁷²⁸—with respect to public health discourses. Scholarship in public health ethics allows little room for examinations of biopolitical subjects. A feminist technoscience approach makes room for such analyses.

As an institutional base for feminist research, the field of women’s studies emerged out of feminist critiques of disciplinary scholarship and higher education. The earliest courses were mostly taught in the liberal arts and social sciences—humanities, sociology, psychology and history—and not nominally as “women’s studies” courses until the 1970s. From 1970-76, feminist research became articulated as the distinctive field of women’s studies with the establishment of journals, anthologies, and a national organization.⁷²⁹

One of women's studies earliest interests was in uncovering missing histories and challenging mistaken assumptions about women. This path of inquiry originated with questions about women's lives and led to new inquiries into processes of gendering and society, as well as into reconceptualizations of knowledge.⁷³⁰ Women's studies increasingly works towards intersectional research that approach social injustices as constituted through simultaneous forms of oppression along dimension of race, gender, sexuality, and nation. Feminist research in the social sciences may serve as the impetus behind this intersectional commitment; however, women's studies is interdisciplinary—crossing boundaries between social sciences, humanities, art and performance, public policy, and public health.

This study contributes to women's studies as a boundary-crossing site for feminist, intersectional, and interdisciplinary research. In terms of interdisciplinarity, this SARS discourse analysis necessarily does “boundary work.” The framing of the central question is a result of working through the knowledge practices of women's studies, ethnic studies, public health, sociology, media, and history. The conceptual framework merges, collides, and weaves conversations from a range of (inter)disciplines. This study expands feminist critiques of public health discourses and puts forth the *masked Asian/American woman* as an analytic construct to be applied to future critical race, feminist analyses. This area of interest deserves more scholarly attention, not only in women's studies but in other fields of knowledge production, as well as in more public domains of meaning-making.

Appendix

Figure A.1: *MMWR* includes only eight laboratory-confirmed SARS cases in its 2003 annual summary of notifiable diseases.

Source: Centers for Disease Control and Prevention, "Summary of Notifiable Diseases--United States, 2003."

TABLE 1. (Continued) Reported cases of notifiable diseases,* by month — United States, 2003

Disease	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Lyme disease	479	605	741	573	1,175	2,136	4,094	4,032	2,195	1,411	1,550	2,282	21,273
Malaria	68	88	95	74	71	96	135	188	161	126	124	176	1,402
Measles	1	3	3	11	7	6	6	11	3	—	1	4	56
Meningococcal disease	124	165	247	152	166	140	95	101	71	110	134	251	1,756
Mumps	14	15	32	13	23	19	12	20	18	11	24	30	231
Pertussis	436	448	701	530	695	660	685	1,108	964	1,102	1,729	2,589	11,647
Plague	—	—	—	—	—	1	—	—	—	—	—	—	1
Psittacosis	1	1	1	—	2	—	1	3	—	2	1	—	12
Q fever	4	4	1	12	10	11	4	7	1	2	4	11	71
Rabies													
Animal	347	386	719	753	709	577	541	751	616	494	503	450	6,846
Human	—	—	—	—	—	—	—	1	1	—	—	—	2
Rocky Mountain spotted fever	19	13	30	31	49	96	87	167	162	92	124	221	1,091
Rubella	—	2	—	1	1	1	1	—	1	—	—	—	7
Congenital syndrome	—	1	—	—	—	—	—	—	—	—	—	—	1
Salmonellosis	1,782	1,950	2,446	2,178	3,278	3,736	5,061	6,345	4,883	4,252	4,008	3,738	43,657
SARS-CoV††	—	—	6	1	1	—	—	—	—	—	—	—	8
Shigellosis	1,502	1,406	1,881	1,397	2,813	2,231	1,927	2,386	2,015	1,790	2,118	2,115	23,581
Streptococcal disease, invasive, group A	356	645	853	650	660	458	357	339	221	222	441	670	5,872
Streptococcal toxic-shock syndrome	14	16	27	19	19	17	5	6	6	6	6	20	161
<i>Streptococcus pneumoniae</i> , invasive													
Drug-resistant	158	223	288	219	208	132	117	106	88	118	158	541	2,356
Age <5 yrs**	61	79	78	68	72	71	41	33	34	54	94	160	845
Syphilis, total, all stages§	2,261	2,622	3,737	2,831	3,355	2,612	2,585	3,159	2,455	2,550	3,030	3,073	34,270
Congenital (age <1 yr)§	42	38	42	28	32	37	37	34	30	25	33	35	413
Primary and secondary§	496	526	714	574	641	570	525	647	535	550	684	715	7,177
Tetanus	1	—	—	—	2	1	1	8	2	1	1	3	20
Toxic-shock syndrome	5	10	14	15	16	10	5	10	11	7	11	19	133
Trichinellosis	—	—	—	—	—	—	—	—	1	—	3	2	6
Tuberculosis§§	593	912	1,021	1,284	1,214	1,296	1,216	1,197	1,202	1,385	1,057	2,497	14,874
Tularemia	2	1	1	—	5	15	15	13	13	9	5	50	129
Typhoid fever	14	26	38	23	24	25	34	51	51	22	24	24	356
Varicella	1,471	1,370	1,642	1,587	2,430	1,129	797	535	914	1,619	2,250	5,204	20,948
Varicella deaths¶¶	—	—	—	—	—	—	—	—	—	1	1	—	2

* No cases of anthrax, Powassan encephalitis, western equine encephalitis, paralytic poliomyelitis, or yellow fever were reported in 2003.

† Total number of acquired immunodeficiency syndrome (AIDS) cases reported to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), through December 31, 2003.

§ Totals reported to the Division of Sexually Transmitted Diseases Prevention, NCHSTP, as of May 1, 2004.

|| Chlamydia refers to genital infections caused by *Chlamydia trachomatis*

** Notifiable in <40 states.

†† Severe acute respiratory syndrome-associated coronavirus; data reported to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases, notifiable as of July 1, 2003.

§§ Totals reported to the Division of Tuberculosis Elimination, NCHSTP, as of April 1, 2004.

¶¶ Death counts provided by Epidemiology and Surveillance Division, National Immunization Program.

Figure A.2: SARS case definitions differ by location

Source: Centers for Disease Control and Prevention, “Update: Outbreak of Severe Acute Respiratory Syndrome—Worldwide, 2003,” *MMWR* 52, no. 12 (28 March 2003): 241-248.

TABLE. Exposure category, clinical features, and demographics of reported severe acute respiratory syndrome (SARS) cases* — selected locations, 2003

Category	Hong Kong		Vietnam		Thailand		Taiwan		United States	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Total cases†	290§	(100)	59	(100)	4	(100)	6	(100)	51§	(100)
	(As of 3/25/03–S/P)		(As of 3/24/03–P)		(As of 3/23/03–S/P)		(As of 3/25/03–P)		(As of 3/26/03–S)	
Exposure										
Health-care worker	134	(46)	37	(63)	1	(25)	0		2	(4)
Close contact‡	156	**	NA††		0		2	(33)	5	(10)
Clinical features										
Ever hospitalized	290	(100)§	59	(100)	4	(100)	6	(100)	20§	(39)
Pneumonia	286	(99)	NA		3	(75)	6	(100)	14	(27)
Ever ventilated	NA		5	(9)	1	(25)	2	(33)	1	(2)
Dead	10	(4)§	2	(3)	0		0		0§	
Demographics										
Age	NA		Median: 38 yrs		Median: 38 yrs		Median: 53 yrs		Median: 42 yrs	
	NA		(range: 18–66 yrs)		(range: 1–49 yrs)		(range: 25–64 yrs)		(range: 8 mos–78 yrs)	
Sex§§										
Female	Approximately 50%		37	(63)	1	(25)	3	(50)	26	(51)
Male	Approximately 50%		22	(37)	3	(75)	3	(50)	25	(49)

* Locations used different SARS case definitions.

† S = Suspected case; P = Probable case; U = Unknown.

§ One U.S. resident (Patient B) was hospitalized in Vietnam and died in Hong Kong before he could return to the United States. He is counted as a Hong Kong case.

‡ Person having cared for, lived with, or had direct contact with respiratory secretions and body fluids of a person with SARS.

** Of the 290 SARS patients in Hong Kong, most of the remaining 156 patients are believed to be close contacts.

†† Not Available.

§§ Only percentages were reported for sex data.

Figure A.3: Summary of reported SARS cases by CDC

Worldwide** (No. of SARS cases)	Date*	United States (U.S.) (No. of SARS cases)	Laboratory Confirmed No. of U.S. SARS Cases
264 suspected and probable cases; 9 deaths ⁷³¹	March 19***	11 suspected cases; 0 deaths ⁷³²	n/a
	March 22		
1,323 suspected and/or probable cases; 49 deaths (case-fatality rate: 4%) ⁷³³	March 26	51 suspected cases; 0 deaths ⁷³⁴	n/a
2,223 suspected and/or probable cases; 78 deaths (case-fatality rates: 3.5%) ⁷³⁵	April 2	100 suspected cases; 0 deaths ⁷³⁶	n/a
2,722 cases; 106 deaths (case-fatality rate 3.9%) ⁷³⁷	April 9	166 suspected cases; 0 deaths ⁷³⁸	n/a
3,293 cases; 159 deaths (case-fatality rate: 4.8%) ⁷³⁹	April 16		
	April 17	208 total cases (173 suspected, 35 probable) ⁷⁴⁰	n/a
4,288 cases; 251 deaths (case-fatality rate: 5.8%) ⁷⁴¹	April 23	245 total cases (206 suspected, 39 probable) ⁷⁴²	6 ⁷⁴³
	April 29		
5,663 cases; 372 deaths (case-fatality rate: 6.6%) ⁷⁴⁴	April 30	289 total cases (233 suspected, 56 probable) ⁷⁴⁵	6 ⁷⁴⁶
6,903 cases; 495 deaths (case-fatality rate: 7.2%) ⁷⁴⁷	May 7	328 total cases (265 suspected, 63 probable) ⁷⁴⁸	6 ⁷⁴⁹
7,628 cases; 587 deaths (case-fatality rate: 7.7%) ⁷⁵⁰	May 14	345 total cases (281 suspected, 64 probable) ⁷⁵¹	6 ⁷⁵²
7,956 cases; 666 deaths (case-fatality rate: 8.4%) ⁷⁵³	May 21	355 total cases, 0 deaths (290 suspected, 65 probable) ⁷⁵⁴	6 ⁷⁵⁵
8,240 cases; 745 deaths (case-fatality rate: 9.0%) ⁷⁵⁶	May 28	363 total cases (297 suspected, 66 probable) ⁷⁵⁷	7 ⁷⁵⁸
8,402 cases; 772 deaths (case-fatality rate: 9.2%) ⁷⁵⁹	June 3	373 total cases, 0 deaths (306 suspected, 67 probable) ⁷⁶⁰	7 ⁷⁶¹
8,435 probable cases; 789 deaths (case-fatality rate: 9.4%) ⁷⁶²	June 11	393 total cases (323 suspected, 70 probable) ⁷⁶³	8 ⁷⁶⁴

Figure A.3 (continued)

Worldwide** (No. of SARS cases)	Date*	United States (U.S.) (No. of SARS cases)	Laboratory Confirmed No. of U.S. SARS Cases
8,465 probable cases; 801 deaths (case-fatality rate: 9.5%) ⁷⁶⁵	June 18	409 total cases (334 suspect, 75 probable) ⁷⁶⁶	8 ⁷⁶⁷
	June 26		
8,442 probable cases; 812 deaths (case-fatality proportion: 9.6%) ⁷⁶⁸	July 2	419 SARS cases (346 suspect, 73 probable) ⁷⁶⁹	8 ⁷⁷⁰
8,427 probable cases; 813 deaths (case fatality rate: 9.6%) ⁷⁷¹	July 11		
	July 15	418 total cases, 0 deaths (344 suspect, 74 probable) ⁷⁷²	
	July 15	211 total cases (including 8 laboratory- confirmed and 203 laboratory-indeterminate) ⁷⁷³	8 ⁷⁷⁴

*Dates are in the year 2003. Date designates the day and month of the data, not the date of *MMWR* publication.

**Worldwide case numbers include U.S. case numbers.

n/a: Not a reported category at that date.

***Bolded dates indicate dates of case definition changes.

Figure A.4: As of March 19, 2003, CDC puts forth a "preliminary case definition" for a "suspected case"

Source: Centers for Disease Control and Prevention, "Outbreak of Severe Acute Respiratory Syndrome—Worldwide, 2003," *MMWR* 52, no. 11 (21 March 2003): 226-228.

BOX. CDC preliminary case definition for severe acute respiratory syndrome (SARS)*

Suspected case

Respiratory illness of unknown etiology with onset since February 1, 2003, and the following criteria:

- Documented temperature >100.4°F (>38.0°C)
- One or more symptoms of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, or radiographic findings of pneumonia or acute respiratory distress syndrome)
- Close contact[†] within 10 days of onset of symptoms with a person under investigation for or suspected of having SARS or travel within 10 days of onset of symptoms to an area with documented transmission of SARS as defined by the World Health Organization (WHO).

* As of March 19, 2003.

[†] Defined as having cared for, having lived with, or having had direct contact with respiratory secretions and/or body fluids of a person suspected of having SARS.

**Figure A.5: As of March 22, 2003, MMWR puts forth CDC's "updated interim case definition."⁷⁷⁵
Source: Centers for Disease Control and Prevention, "Update: Outbreak of Severe Acute Respiratory Syndrome—Worldwide, 2003," *MMWR* 52, no. 12 (28 March 2003): 241-248.**

BOX. CDC updated interim case definition for severe acute respiratory syndrome (SARS)*

Suspected case[†]

Respiratory illness of unknown etiology with onset since February 1, 2003, and the following criteria:

- Measured temperature >100.4°F (>38.0°C)
 - One or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, hypoxia, or radiographic findings of either pneumonia or acute respiratory distress syndrome)
 - Travel within 10 days of onset of symptoms to an area with suspected or documented community transmission of SARS,[§] (excluding areas with secondary cases limited to health-care workers or direct household contacts)
- OR
- Close contact[¶] within 10 days of onset of symptoms with either a person with a respiratory illness and travel to a SARS area or a person under investigation or suspected of having SARS

* As of March 22, 2003.

[†] Suspected cases with either radiographic evidence of pneumonia or respiratory distress syndrome, or evidence of unexplained respiratory distress syndrome by autopsy, are designated "probable" cases by the World Health Organization case definition.

[§] Hong Kong Special Administrative Region and Guangdong province, China; Hanoi, Vietnam; and Singapore.

[¶] Close contact is defined as having cared for, having lived with, or having had direct contact with respiratory secretions and/or body fluids of a patient suspected of having SARS.

Figure A.6: As of April 29, 2003, *MMWR* puts forth an "updated U.S. surveillance case definition." Source: Centers for Disease Control and Prevention, "Update Interim Surveillance Case Definition for Severe Acute Respiratory Syndrome (SARS)—United States, April 29, 2003," *MMWR* 52, no. 17 (2 May 2003): 391-393.

BOX. Updated interim U.S. surveillance case definition for severe acute respiratory syndrome (SARS) – United States, April 29, 2003

Clinical criteria

- Asymptomatic or mild respiratory illness
- Moderate respiratory illness
 - Temperature of >100.4° F (>38° C)*, and
 - One or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, or hypoxia).
- Severe respiratory illness
 - Temperature of >100.4° F (>38° C)*, and
 - One or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, or hypoxia), and
 - radiographic evidence of pneumonia, or
 - respiratory distress syndrome, or
 - autopsy findings consistent with pneumonia or respiratory distress syndrome without an identifiable cause

Epidemiologic criteria

- Travel (including transit in an airport) within 10 days of onset of symptoms to an area with current or recently documented or suspected community transmission of SARS[†], or
- Close contact[§] within 10 days of onset of symptoms with a person known or suspected to have SARS infection

Laboratory criteria[‡]

- Confirmed
 - Detection of antibody to SARS-CoV in specimens obtained during acute illness or >21 days after illness onset, or
 - Detection of SARS-CoV RNA by RT-PCR confirmed by a second PCR assay, by using a second aliquot of the specimen and a different set of PCR primers, or
 - Isolation of SARS-CoV
- Negative
 - Absence of antibody to SARS-CoV in convalescent serum obtained >21 days after symptom onset
- Undetermined: laboratory testing either not performed or incomplete

Case classification**

- Probable case: meets the clinical criteria for severe respiratory illness of unknown etiology with onset since February 1, 2003, and epidemiologic criteria; laboratory criteria confirmed, negative, or undetermined
- Suspect case: meets the clinical criteria for moderate respiratory illness of unknown etiology with onset since February 1, 2003, and epidemiologic criteria; laboratory criteria confirmed, negative, or undetermined

* A measured documented temperature of >100.4° F (>38° C) is preferred. However, clinical judgment should be used when evaluating patients for whom a measured temperature of >100.4° F (>38° C) has not been documented. Factors that might be considered include patient self-report of fever, use of antipyretics, presence of immunocompromising conditions or therapies, lack of access to health care, or inability to obtain a measured temperature. Reporting authorities might consider these factors when classifying patients who do not strictly meet the clinical criteria for this case definition.

† Areas with current documented or suspected community transmission of SARS include mainland China and Hong Kong Special Administrative Region, People's Republic of China; Singapore; Taiwan; and Toronto, Canada. Hanoi, Vietnam is an area with recently documented or suspected community transmission of SARS.

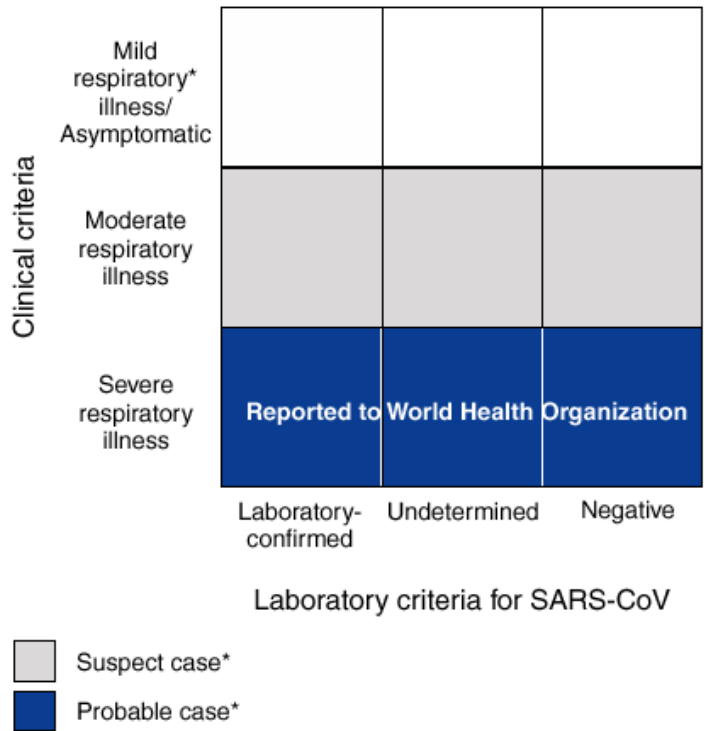
§ Close contact is defined as having cared for or lived with a person known to have SARS or having a high likelihood of direct contact with respiratory secretions and/or body fluids of a patient known to have SARS. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, close conversation (<3 feet), physical examination, and any other direct physical contact between persons. Close contact does not include activities such as walking by a person or sitting across a waiting room or office for a brief period of time.

‡ Assays for the laboratory diagnosis of SARS-CoV infection include enzyme-linked immunosorbent assay, indirect fluorescent-antibody assay, and reverse transcription polymerase chain reaction (RT-PCR) assays of appropriately collected clinical specimens (Source: CDC. Guidelines for collection of specimens from potential cases of SARS. Available at http://www.cdc.gov/ncidod/sars/specimen_collection_sars2.htm). Absence of SARS-CoV antibody from serum obtained ≤21 days after illness onset, a negative PCR test, or a negative viral culture does not exclude coronavirus infection and is not considered a definitive laboratory result. In these instances, a convalescent serum specimen obtained >21 days after illness is needed to determine infection with SARS-CoV. All SARS diagnostic assays are under evaluation.

**Asymptomatic SARS-CoV infection or clinical manifestations other than respiratory illness might be identified as more is learned about SARS-CoV infection.

Figure A.7: Reported SARS cases are to be classified as suspect or probable and can be further classified as laboratory-confirmed, laboratory-negative, or laboratory-indeterminate.
 Source: Centers for Disease Control and Prevention, “Update Interim Surveillance Case Definition for Severe Acute Respiratory Syndrome (SARS)—United States, April 29, 2003,” *MMWR* 52, no. 17 (2 May 2003): 391-393.

FIGURE. Clinical and laboratory criteria for probable and suspect severe acute respiratory syndrome (SARS) cases and SARS-associated coronavirus (SARS-CoV) infection — United States, April 29, 2003



* Meets epidemiologic criteria.

Figure A.8: Only 8 of the 418 SARS cases, reported as of July 15, were actually laboratory-confirmed SARS cases.

Source: Centers for Disease Control and Prevention, “Update: Severe Acute Respiratory Syndrome—Worldwide and United States, 2003,” *MMWR* 52, no. 28 (18 July 2003): 664-665.

TABLE. Number of reported suspect and probable severe acute respiratory syndrome (SARS) cases, by results of serologic tests for SARS-associated coronavirus (SARS-CoV) infection — United States, July 15, 2003

Case status	Convalescent serum negative for SARS-CoV antibodies	Convalescent serum specimen not obtained	SARS-CoV infection confirmed by serology	Total
Suspect	169	175	0	344
Probable	38	28	8	74
Total	207	203	8	418

Figure A.9: This table reports numbers of reported SARS cases in the U.S. as of May 28th, 2003. This is the last table published in *MMWR* that characterizes the sex and race of SARS cases within this study's six-month time frame.

Source: Centers for Disease Control and Prevention, "Update: Severe Acute Respiratory Syndrome—United States, May 28, 2003," *MMWR* 52, no. 21 (30 May 2003): 500-501.

TABLE. Number* and percentage of reported severe acute respiratory syndrome (SARS) cases, by selected characteristics — United States, 2003

Characteristic	Probable cases† (n = 66)		Suspect cases† (n = 297)	
	No.	(%)§	No.	(%)§
Age (yrs)				
0–4	8	(12)	45	(15)
5–9	1	(2)	13	(4)
10–17	4	(6)	9	(3)
18–64	39	(59)	206	(69)
≥65	13	(20)	21	(7)
Unknown	1	(2)	3	(1)
Sex				
Female	27	(41)	143	(48)
Male	39	(59)	153	(52)
Unknown	0	(0)	1	(0)
Race				
White	29	(44)	163	(55)
Black	1	(2)	7	(2)
Asian	28	(42)	97	(33)
Other	3	(5)	6	(2)
Unknown	5	(8)	24	(8)
Exposure				
Travel¶	64	(97)	270	(91)
Close contact	1	(2)	23	(8)
Health-care worker	1	(2)	4	(1)
Hospitalized >24 hrs**				
Yes	43	(65)	75	(25)
No	23	(35)	218	(73)
Unknown	0	(0)	4	(1)
Required mechanical ventilation				
Yes	2	(3)	2	(1)
No	59	(89)	288	(97)
Unknown	5	(8)	7	(2)
SARS-associated coronavirus laboratory findings				
Confirmed	7	(11)	0	(0)
Negative	29	(44)	111	(37)
Undetermined††	30	(45)	186	(63)

* N = 363.

† CDC. Updated interim U.S. case definition of severe acute respiratory syndrome (SARS). Available at <http://www.cdc.gov/ncidod/sars/casedefinition.htm>.

§ Percentages might not total 100% because of rounding.

¶ To mainland China; Hong Kong Special Administrative Region, China; Hanoi, Vietnam; Singapore; Toronto, Canada; or Taiwan.

** As of May 28, no SARS-related deaths have been reported in the United States.

†† Collection and/or laboratory testing of specimens has not been completed.

Figure A.10: *EID* publishes this table that presents the "demographic description of patients with severe acute respiratory syndrome" in Singapore that describes SARS cases by "No. of men."
 Source: Hsu L-Y, Lee C-C, Green JA, Ang B, Paton NI, Lee L, et al. Severe acute respiratory syndrome (SARS) in Singapore: clinical features of index patient and initial contacts. *Emerg Infect Dis* [serial online] 2003 Jun [*date cited*]. Available from: URL: <http://www.cdc.gov/ncidod/EID/vol9no6/03-0264.htm>

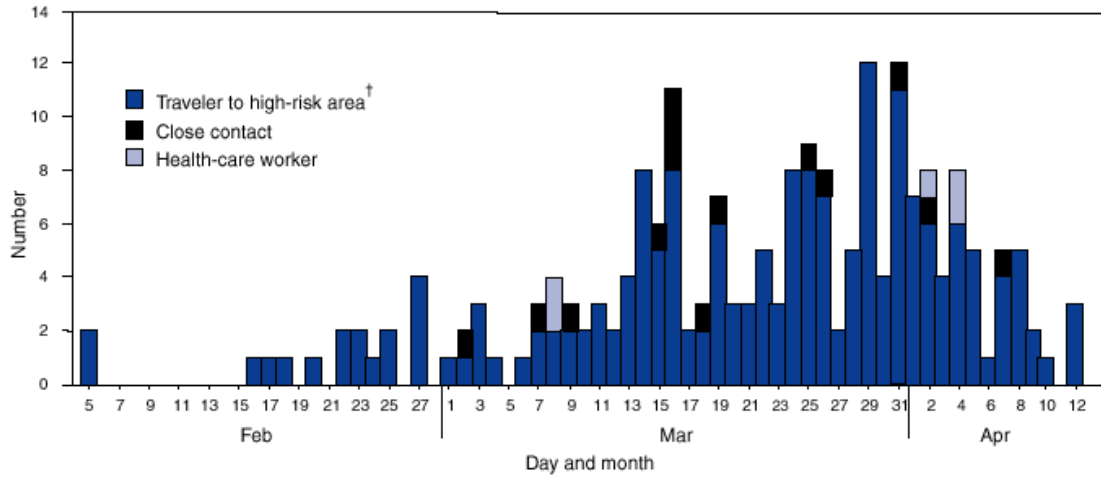
Demographic description of patients with severe acute respiratory syndrome, Singapore	
Demographics	No.
No. of men (%) ^a	5 (25)
No. of healthcare workers (%) ^a	9 (45)
Median age in years (range)	28 (19-73)
Median days from onset of symptoms to admission (range)	6.0 (0-9)

^aN=20.

Figure A.11: Risky Spaces include Mainland China, Hong Kong, Singapore, and Hanoi⁷⁷⁶

Source: Centers for Disease Control and Prevention, "Update: Severe Acute Respiratory Syndrome—United States, 2003," *MMWR* 52, no. 15 (18 April 2003): 332-336.

FIGURE. Number of reported suspected cases* of severe acute respiratory syndrome, by exposure category and date of illness onset — United States, 2003



* N = 208.
[†] Mainland China, Hong Kong, Singapore, or Hanoi.

Figures A.12 (left) and A.13 (right): *Emerging Infectious Diseases*' cover art and accompanying cover articles introduce metaphors of human progress in the face of nature's obstacles. SARS is presented as a timely example of nature's threats to human exploration and health.

Source: Polyxeni Potter, "The Cover," *Emerging Infectious Diseases* 9, no. 5 (May 2003): 613.;

Polyxeni Potter, "The Cover," *Emerging Infectious Diseases* 9, no. 8 (August 2003): 1035.

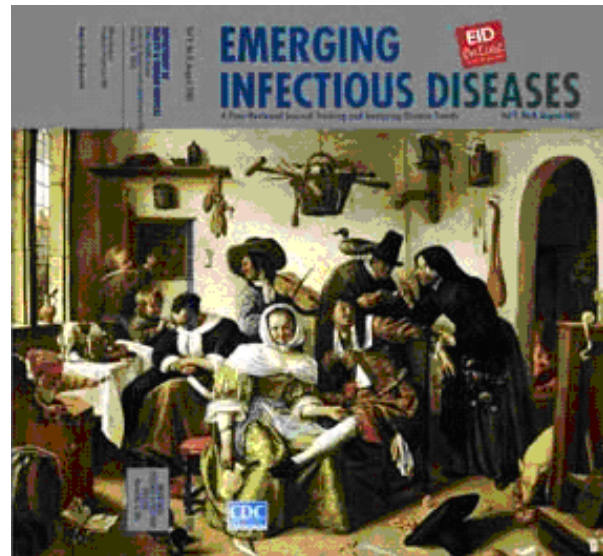
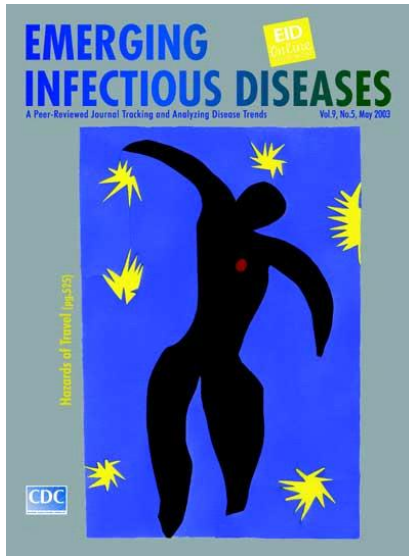


Figure A.14: Elements of non-government science metaphors—(1) war/battle, (2) national security, (3) hunting, (4) crime mystery—drawn directly from data sources.

Figure A.14.1: War/battle metaphor in non-government-science

War/Battle	Hero	Action	Enemy
	<ul style="list-style-type: none"> • “health care professionals” • “research community” • “health care leadership” • “knowledge from...research” • “rapidly implement whatever strategies” 	<ul style="list-style-type: none"> • “combat” 	<ul style="list-style-type: none"> • “newly emerging infectious disease”
	<ul style="list-style-type: none"> • “early recognition, prompt isolation, and appropriate therapy” 	<ul style="list-style-type: none"> • “combating” 	<ul style="list-style-type: none"> • “deadly infection”
	<ul style="list-style-type: none"> • “we” (international public health organizations and governments) 	<ul style="list-style-type: none"> • International public health and state collaborations: “The SARS virus shows that when confronted by a common enemy, we can forget our difference and work together fruitfully.” 	<ul style="list-style-type: none"> • “common enemy”
	<ul style="list-style-type: none"> • Scientists and their research 	<ul style="list-style-type: none"> • Research 	<ul style="list-style-type: none"> • “the coronavirus is the true villain in SARS”
	<ul style="list-style-type: none"> • Hong Kong Jockey Club • Hong Kong public health system 	<ul style="list-style-type: none"> • Invest in and set forth the “campaign to combat SARS” 	<ul style="list-style-type: none"> • SARS
	<ul style="list-style-type: none"> • Hong Kong public health system 	<ul style="list-style-type: none"> • “fight against SARS” 	<ul style="list-style-type: none"> • SARS
	<ul style="list-style-type: none"> • Coronavirology 	<ul style="list-style-type: none"> • “fighting the outbreak” 	<ul style="list-style-type: none"> • SARS outbreak
	<ul style="list-style-type: none"> • Public health and Biomedical researchers • Health-care workers 	<ul style="list-style-type: none"> • “battling SARS on the frontlines” 	<ul style="list-style-type: none"> • SARS
	<ul style="list-style-type: none"> • Public health researcher and officials 	<ul style="list-style-type: none"> • “SARS eradication” 	<ul style="list-style-type: none"> • SARS
	<ul style="list-style-type: none"> • Canadian public health officials 	<ul style="list-style-type: none"> • “never drop our guard” 	<ul style="list-style-type: none"> • SARS outbreak
	<ul style="list-style-type: none"> • China’s public health efforts • W.H.O.’s assistance 	<ul style="list-style-type: none"> • “...all-out battle to rein in the disease--a battle that ended in victory...” 	<ul style="list-style-type: none"> • “SARS epidemic” • “disease”
	<ul style="list-style-type: none"> • “science as a key weapon against the disease” 	<ul style="list-style-type: none"> • “weapon against” 	<ul style="list-style-type: none"> • SARS
	<ul style="list-style-type: none"> • Researchers 	<ul style="list-style-type: none"> • “SARS frontline” 	<ul style="list-style-type: none"> • SARS

Figure A.14.2: National security metaphor in non-government science

National Security	Hero	Action	Enemy
	<ul style="list-style-type: none"> Public health information technology W.H.O. and its experts C.D.C. and its experts 	<ul style="list-style-type: none"> research reporting monitoring 	<ul style="list-style-type: none"> “Mother Nature is by far the worst bioterrorist out there.”
	<ul style="list-style-type: none"> U.S. government U.S. public health system 	<ul style="list-style-type: none"> Invest Train Strengthen public health structures 	<ul style="list-style-type: none"> SARS as a post-September 11th national security threat
	<ul style="list-style-type: none"> Global and U.S. public health systems 	<ul style="list-style-type: none"> “global war on disease” 	<ul style="list-style-type: none"> SARS

Figure A.14.3: Hunting metaphor in non-government science

Hunting	Hunter	Action/Description of Hunt	Prey
	<ul style="list-style-type: none"> “researchers around the world” compared to a “pack of wolves” 	<ul style="list-style-type: none"> “devoured” 	<ul style="list-style-type: none"> SARS coronavirus’ “genetic code”
	<ul style="list-style-type: none"> Research 	<ul style="list-style-type: none"> “similar hunts turn up all kinds of pathogens” 	<ul style="list-style-type: none"> “pathogens”
	<ul style="list-style-type: none"> 11-laboratories around the world, coordinated by W.H.O. 	<ul style="list-style-type: none"> “joint, feverish hunt” 	<ul style="list-style-type: none"> “cause of the new disease”
	<ul style="list-style-type: none"> Scientists and researchers 	<ul style="list-style-type: none"> “hunt” 	<ul style="list-style-type: none"> “reservoir”
	Scientists and researchers described as: <ul style="list-style-type: none"> “virus hunter[s]” “animal-virus hunters” 	<ul style="list-style-type: none"> “hunt for viruses” “virus hunts” 	<ul style="list-style-type: none"> SARS virus

Figure A.14.4: Crime mystery metaphor in non-government science

Crime Mystery	Detective	Action	Criminal
	<ul style="list-style-type: none"> • Researchers 	<ul style="list-style-type: none"> • “searching for clues” 	<ul style="list-style-type: none"> • “[SARS] virus’s origins, behavior, future”
	<ul style="list-style-type: none"> • “scientists” • research • researchers 	<ul style="list-style-type: none"> • “fingering the culprit” • “yields clues” • develop “tools to track its spread” 	<ul style="list-style-type: none"> • “sequenced the novel 30,000-base [SARS] coronavirus” • SARS coronavirus • SARS spread
	<ul style="list-style-type: none"> • researchers 	<ul style="list-style-type: none"> • yield “clues to the animal origins of SARS” 	<ul style="list-style-type: none"> • SARS “virus had been lurking”
	<ul style="list-style-type: none"> • Scientists • Researchers • W.H.O.’s laboratory network 	<ul style="list-style-type: none"> • encounter “false leads” • “on the right trail” • “fingering the coronavirus” 	<ul style="list-style-type: none"> • “mysterious disease” • “suspect” • “mysterious disease plaguing the southern province”
	<ul style="list-style-type: none"> • researchers • W.H.O. research • researchers • researchers 	<ul style="list-style-type: none"> • “tracking the roots of a killer” • yield “clues from a market” • “fingering a previously unknown coronavirus as the cause of SARS” • suspect 	<ul style="list-style-type: none"> • SARS as the “killer” • “origins of SARS” • “cause of SARS” • Suspect SARS animal reservoir, civets, described as “under suspicion”
	<ul style="list-style-type: none"> • Lack of collaboration among Chinese research institutions 	<ul style="list-style-type: none"> • Inability to be the first researchers to identify 	<ul style="list-style-type: none"> • “culprit virus”
	<ul style="list-style-type: none"> • “scientists” • Scientists 	<ul style="list-style-type: none"> • “chase” • “search” 	<ul style="list-style-type: none"> • “fast-moving and deadly global illness” • “culprit” • “mysterious disease”
	<ul style="list-style-type: none"> • Researchers and their research 	<ul style="list-style-type: none"> • “indictment of a coronavirus” 	<ul style="list-style-type: none"> • SARS coronavirus may have an “accomplice”
	<ul style="list-style-type: none"> • Researchers described as “disease detectives” • as possessing “detective prowess” 	<ul style="list-style-type: none"> • identify 	<ul style="list-style-type: none"> • SARS coronavirus as “culprit”

Figure A.15: Elements and examples of “War on SARS” from Project Bioshield Congressional Hearing and other Congressional Hearings in government-public policy social world

Role	Project Bioshield Congressional Hearing	Government-Public Policy*
Hero	<p>U.S. Government</p> <ul style="list-style-type: none"> • U.S. Congress • Executive Office • Government Public Health Organizations • National Institute of Health • Department of Health and Human Services • National Institute of Allergy and Infectious Diseases • Food and Drug Administration • Department of Homeland Security • Department of Defense <p>Private Industry</p> <ul style="list-style-type: none"> • Biotechnology Industry • Pharmaceutical Industry <p>Health-Care Workers</p> <ul style="list-style-type: none"> • “trained medical personnel” 	<ul style="list-style-type: none"> • health-care workers as “pillars of our societies” • public health officials • public health organizations • researchers and scientists • “on the frontlines” • U.S. Congress
Heroic Weaponry	<ul style="list-style-type: none"> • “Project Bioshield Act” • “identify and evaluate bioterrorist threats” • countermeasures • “vaccines, tests and treatments” • “massive caches of stockpiled vaccines, antibiotics and drugs” • “surveillance systems, diagnostic tools” • “cooperation and strong commitment from all parties” • “new technologies and tools” 	<ul style="list-style-type: none"> • Epidemiological knowledge about SARS • SARS cure • SARS diagnostic tests • SARS treatment • SARS vaccine • ability to identify and isolate probable SARS cases • global scientific collaborations • SARS funding and resources • “combat ready systems” • strong and flexible public health infrastructure on the global, national, and local levels
Heroic Action	<ul style="list-style-type: none"> • “combat” • “fight” • “protect” • serve on the “front lines” • function as the “last line of defense” • “developing countermeasures” 	<ul style="list-style-type: none"> • “fight” • “defend” • “battle” • “combat” • “protect” • “mount a response” • “mobilize resources” • “safeguard” • “stop” • “handle” • “struggle”

Figure A.15 (continued)

Role	Project Bioshield Congressional Hearing	Government-Public Policy*
Enemy	<ul style="list-style-type: none"> • SARS as a “very looming threat to public health” • “deadly pathogens” • “deadly syndrome” • “public health emergency” <p>SARS as a Bioterrorist Threat</p> <ul style="list-style-type: none"> • “bioterrorist threats” • “bioterrorism, biological warfare” • “bioterrorist acts” • “attacks by biological, chemical, nuclear or radiological weapons” <p>Nature as a Bioterrorist</p> <ul style="list-style-type: none"> • “nature itself can be a worse bioterrorist” • “natural and manmade biological outbreaks • “nature’s evolving arsenal of biological threats” • “threat of bioterrorism and the highly prevalent naturally occurring infections” 	<ul style="list-style-type: none"> • “deadly pathogens” • “deadly disease” • “pathogens that may attack us” • “disease that can, in a matter of hours, fly around the world” • “SARS is a global menace and a local threat” • “deadly disease” that can “leap oceans and travel the globe in a matter of hours” • SARS as a bioterrorist threat <p>“Mother Nature”...:</p> <ul style="list-style-type: none"> • originates SARS • attacks with biologic agents • “spreads diseases” • threatens “our species” • “Our ability as a nation to defend ourself against all enemies, foreign or domestic, or even Mother Nature...” • “the critical need for our country...to prepare its homeland security against both human-made and Mother Nature-made biologic agent attacks” • “...we are, because of Mother Nature, constantly being drilled in this country and around the world...that our health departments are failing”
Homeland/ In Need of Defense	<ul style="list-style-type: none"> • “health and safety of the American people” • “U.S. citizens” • “American public” • “health of the public” • “nation” 	<ul style="list-style-type: none"> • Homeland Security • health, safety and security of the nation’s people and citizens • local communities • travelers • public • “the front lines of the SARS battle...drawn at our airports and our home communities, at border crossings, at hospitals, local doctors’ offices” • “mankind”

*Excluding Project Bioshield Congressional Hearing

Figure A.16: Elements and examples of “War on SARS” in mainstream news media

Role	Mainstream News Media
Hero	<p>Health-Care Workers</p> <ul style="list-style-type: none"> • “health care workers on the front lines” • “health-care workers” • “front lines are in health departments” • “public health” <p>Public Health Organizations, Experts, and Officials</p> <ul style="list-style-type: none"> • Hospital managers and officials in Toronto” • World Health Organization • Center for Disease Control and Prevention • scientists <p>United States</p> <ul style="list-style-type: none"> • “United States” and “America”
Heroic Weaponry	<p>Biomedical and Defense Technology</p> <ul style="list-style-type: none"> • “If SARS persists..., Singapore officials predict that temperature screening at airports will become as commonplace as X-raying baggage for bombs.” • “disinfectants like bleach” • drugs and vaccines <p>Public Health Research, Collaboration, and Response Measures</p> <ul style="list-style-type: none"> • science • “public health measures as a bulwark against the spread” of SARS • “...is preparedness our ultimate weapon?” • “combined efforts of the scientific community, governments, multinational organizations, and corporations” • CDC’s emergency operations center, known as the “war room,” includes communication technology • development of “color code” system for the “threat of emerging diseases” to the U.S. • CDC’s communication and provision of advice to the public, media, medical community, and airline industry <p>Homeland Security Funding</p> <ul style="list-style-type: none"> • “federal domestic security funds had helped the county prepare for the outbreak of the disease”
Heroic Action	<p>Battle SARS</p> <ul style="list-style-type: none"> • “In battling infectious diseases, as in wars, some people are more courageous than others...” • “battle to attack it swiftly and head-on” • “battle against SARS” • “battle is far from won” • “uphill battle” • “The battle may not succeed in eradicating the disease...” • “medical battle is being fought on multiple fronts...” • “in mustering a vigorous battle against SARS” <p>Fight, Combat, and Attack SARS</p> <ul style="list-style-type: none"> • “fight to contain the SARS virus” • “fighting SARS” • “fight against SARS” • “fighting the disease”

Figure A.16 (continued)

Role	Mainstream News Media
<p>Heroic Action (continued)</p>	<ul style="list-style-type: none"> • “combat deadly virus” • “attack this epidemic” • “mounting an antiviral attack” • “...WHO officials who have pressed for a world attack on the disease in hopes of driving the disease back to wherever it came from in nature.” <p>Defend and Protect</p> <ul style="list-style-type: none"> • “shore up defenses” • “WHO mobilized affected nations to join hands in fending off ‘severe acute respiratory syndrome’” • “develop vaccine to protect against SARS and antivirals to treat it” • “protect public’s health” <p>Other Military Actions</p> <ul style="list-style-type: none"> • “bombards the SARS virus” • “‘medical equivalent of shock and awe’” • “Scientists are launching seek-and-destroy missions in petri dishes. And public-health officials are mapping strategies for drug and vaccine development.” • “conquer SARS” • CDC’s “muscular and nimble response” to SARS • “powerful incentives to declare victory as soon as possible”
<p>Enemy</p>	<ul style="list-style-type: none"> • SARS is “proving itself to be a formidable enemy” • “As with any new enemy, victory will not come easily—or quickly.” • viruses as “unpredictable foes” • SARS virus as the “new hidden enemy” • SARS as a “tenacious adversary” • “deadly virus” • “new strains, unfamiliar to humans, can overwhelm the body’s defenses, causing deadly, global pandemics” • Viral mutations • “biologic invasions” • Body’s “friendly fire” immune response to SARS as the “foreign invader”: “The serious pneumonia that defines SARS now seems to come from...the body’s own immune system violently reacting to this foreign invader. It’s almost like friendly fire...” • “SARS is just the latest example” of a “security threat” • “The terror attacks of Sept. 11, 2001, alerted us to the fact that commercial airliners can be weapons. The recent spread of SARS reminds us that airliners can deliver far more than passengers...They are a fast and efficient way to share germs.” • “‘A false [sense of] security could become our worst enemy’”
<p>Homeland/ In Need of Defense</p>	<p>United States</p> <ul style="list-style-type: none"> • “nation” • nation’s “public health” • national security <p>Body’s Immune System</p> <ul style="list-style-type: none"> • “defenses of the immune system” • “body’s defenses”

Figure A.17: Elements and examples of "Crime Mystery Metaphor" in mainstream news media

Crime Mystery Metaphor				
Hero	Heroic Action	Enemy		
Detective	Action	Criminal		
		Mysterious	Suspect/Culprit	Killer
<ul style="list-style-type: none"> • “medical detectives” • “medical detective work” • “scientists” • “public health detectives” • “medical investigators” • “disease detectives” • “health officials” 	<ul style="list-style-type: none"> • “solving the mystery of SARS” • “pursuit” • “searched...for clues” • “tracking a deadly bug” • “scientists have solidly nailed down the culprit of SARS” • “unraveling the mysteries of the SARS virus” • “unravel puzzles like SARS” • “on the trail of a mystery illness” • “trying to solve the riddle of SARS” • “tracking of new and emerging infections” • “scientific investigation” • use “viral clues” • “working overtime trying to keep people from harm” 	<ul style="list-style-type: none"> • “the mystery of SARS” • “SARS mystery” • “mystery disease” • “mysterious respiratory illness” • “mysterious new respiratory ailment” • “mysterious illness” • “mysterious remote illness” • “mysterious and sometimes deadly illness” • “mysterious infectious respiratory disease” • “mysterious respiratory disease” • “enigmatic illness” • “mystery germ” • “origins of the disease remain a mystery” • “lingering mysteries” • “new mysteries arise” • “mystery bug” • “mystery illness still puzzling to doctors and scientists” • “puzzle” 	<ul style="list-style-type: none"> • “newly accused mass-murder suspect” • “culprit” • “probable culprit” • “prime culprit” • “viral culprit” • “likely suspect” • “prime suspect” • “primary suspect” • “possible suspect” • “under suspicion” • “suspect virus” • “suspect coronavirus” • “leading suspects” • “coronavirus could be a coconspirator” • “bug is hard to catch on the street” • “SARS may not be giving up its secrets” • “coronavirus has mutated enough to elude detection” • “viruses remain mysterious and unpredictable foes” 	<ul style="list-style-type: none"> • “miniscule murderer” • “killer” • “killer bug” • “traveling killer” • “killer microbe” • “strange new virus continues its spree, killing hundreds and infecting thousands more” • “insidious nature of the virus, its capacity to spread and kill” • “ability of virus to get from victim to victim” • “SARS virus began its erratic and lethal hop around the world” • “disease was a mystery when it started killing people”

Figure A.18: Ir/Responsibility at the nation-state level in mainstream news media

Subject Type	Characteristics	Discursive Construction	Examples from Text
<p>China, the Irresponsible Nation-State</p>	<ul style="list-style-type: none"> • Secrecy • misinformation and underreporting SARS cases • government imposes an information blackout to the media, global public health community, its own citizens and health-care workers • government hides SARS patients • political backwardness results in global disease threats • distrusted by the global public health community and its own citizens 	<ul style="list-style-type: none"> • Exposes: Journalists expose SARS crisis in China and provide personal accounts of their experiences. • Editorials • Interviews with, including quotes from, global and U.S. public health authorities • Interviews with, including quotes from, health-care workers in China • Interviews with, including quotes from, Chinese citizens 	<ul style="list-style-type: none"> • “If not for the secrecy of the Chinese government, health officials could have acted a lot earlier.” • “As a <i>TIME</i> reporter continued through the ward, another nurse who wouldn't give her name stopped him and explained, ‘Look, I'm not pushing you away. I do this for your own good. It's too dangerous here. Even we who work here don't know when we'll get it. Don't believe the [Chinese] government. They never tell you the truth. They say it's a deadly disease with 4% mortality? Are you kidding me? The death rate is at least 25%. In this hospital alone, there are more than 10 patients dead already.” • “At a secret staff meeting overheard by a <i>TIME</i> reporter, Dr. Zhang Hanwei, director of the Shanxi Provincial People's Hospital in Taiyuan, relayed what he called the "three nos" disseminated by China's Ministry of Central Publicity: no talking to the media about SARS, no talking to the public about treating the disease and no tattling to WHO if its experts come calling.” • “The Chinese government's decision to cover up SARS is the reason the virus spread worldwide and created an epidemic. Health and Human Services Secretary Tommy Thompson told me [Lou Dobbs] last week that SARS developed into a much greater problem because "China wouldn't let us come in and see what was taking place. We got alerted to the SARS problem sometime in the early part of February, but we really never got in to really examine it until sometime in March.” • “The problem is, after early government silence, people still don't believe they're getting the full story. ‘This is typical government behavior," says a Tsinghua University graduate student named Shen. "But the fact they hid information about something that could make people ill, even kill them, this mistake is unforgivable.”” • “‘The situation is going to get worse before it gets better,’ said Sydney Chang, past president of the American Chamber of Commerce in Shanghai. China's most cosmopolitan and image-conscious city still claims that it has only two cases of SARS, a number few believe. ‘It's very upsetting they keep saying everything is OK,’ Chang said. ‘The biggest problem is transparency. If you are not transparent, who is going to trust you?’”

Figure A.19: Ir/Responsibility at the individual level in mainstream news media

Subject Type	Characteristics	Discursive Construction	Examples from Text
<p>Responsible At-Risk Subject</p>	<ul style="list-style-type: none"> • Take precautionary action to prevent outside SARS contagion from infecting the body • Engage in self-preventative practice • Actively seek SARS-related information • Practice self-surveillance • Self-refer to health authorities when necessary • Use necessary protective equipment • Practice personal hygiene 	<ul style="list-style-type: none"> • Articles directly address reader through second person “you.” • Articles present questions, using first person “I,” that readers ought to ask themselves. • Interviews with, including quotes from, at-risk subjects • Articles penned by at-risk subjects detailing first person experiences 	<ul style="list-style-type: none"> • “Should I be worried?” • “How can I protect myself?” • “Should I wear a surgical mask?” • “Coughing and convinced you have SARS? Relax. Unless, that is, you’ve recently been to Asia or Toronto—or come in “close contact” (read: face to face) with a suspected carrier. Among symptoms: fever, cough, shortness of breath. The Centers for Disease Control and Prevention recommends people who develop signs within 10 days of possible exposure call their doctor.” • “How to Protect Yourself... Washing hands regularly is a good idea. It doesn't hurt to wear a mask in regions where there are large numbers of cases, such as Beijing, Hong Kong, Singapore and Toronto. Coronaviruses can survive for as long as 24 hours on surfaces, so remove and dispose of your mask carefully.” • As part of China’s attempts to curb SARS spread, it distributes white spit bags printed with the following: “Spitting on the ground is dangerous to your health, and spit contains infectious diseases But with one small bag in your hands, your health will always be invincible.” • “WASH YOUR HANDS. The best defense against SARS is not face masks (which are not 100 percent effective) but frequent, thorough hand washing, either with soap and water or alcohol-based rubs. FEELING SICK? Call your doctor if you have a fever greater than 100.4 degrees Fahrenheit, along with a cough or difficulty breathing. Although the symptoms can be debilitating, most people recover within a couple weeks.”

Figure A.19 (continued)

Subject Type	Characteristics	Discursive Construction	Examples from Text
Responsible Risky Subject	<ul style="list-style-type: none"> • Control the spread of infection from self (risky subject) to others (at-risk subjects) • Self-refer to health authorities • Heed public health authorities' directives • Voluntary quarantine • Use necessary protective equipment • Practice personal hygiene 	<ul style="list-style-type: none"> • Articles directly address reader through second person "you." • Articles present questions, using first person "I," that readers ought to ask themselves. • Interviews with, including quotes from, risky subjects • Articles penned by risky subjects detailing first person experiences 	<ul style="list-style-type: none"> • "I've just returned from Asia. Should I stay home for a while?" • "You know it's bad when doctors are warning people to stay home if they have a single symptom. Yet that's just what Canadian health officials did last week to try to put a lid on SARS... The symptoms: dry cough, shortness of breath, severe headache, fatigue, achy muscles, and a fever of 100.4 Fahrenheit or higher." • "Most voluntary quarantines have involved individual travelers, like Shengyi Liu, who decided last week to isolate himself in his one-bedroom apartment in Oakland, Calif., after hearing the worries of friends and relatives." • "Once we arrived at my parents' home, we quarantined ourselves and asked friends to wait until the three- to seven-day incubation period was over before they visited us. That phase has ended and, luckily, we're all fine. We're slowly adjusting to life without SARS." • "The only people who need to wear masks are SARS patients and their caretakers."
Responsible Traveler	<ul style="list-style-type: none"> • Actively seek SARS-related travel information • Heed travel recommendations issued by public health authorities • Use necessary protective equipment 	<ul style="list-style-type: none"> • Articles directly address reader through second person "you." • Articles present questions, using first person "I," that readers ought to ask themselves. • SARS-related travel information included in travel sections • Public health authorities are quoted or referenced 	<ul style="list-style-type: none"> • "Should I cancel my next trip to Asia?" • "DON'T GO THERE. The Centers for Disease Control and Prevention advises against travel to mainland China and Hong Kong, Singapore, and Hanoi. It has also issued a travel alert for Toronto and lists guidelines to follow." • "Dr. David L. Heymann, the executive director for communicable diseases at the WHO, said that complete protection was very difficult and suggested that if people 'want to really fly and be protected, get yourself goggles, a mask and gloves.'"
Responsible Consumer	<ul style="list-style-type: none"> • Beware of products marketed as SARS-cures or as having preventative powers 	<ul style="list-style-type: none"> • Articles report scams, caution readers, draw from expertise of public health authorities 	<ul style="list-style-type: none"> • "While specifics of the scams du jour adapt to the <i>news</i>, the underlying intent--to tap into consumer vulnerabilities--is constant. Last month, for instance,

Figure A.19 (continued)

Subject Type	Characteristics	Discursive Construction	Examples from Text
	<ul style="list-style-type: none"> • Consult public health authorities 		<p>the Federal Trade Commission said it found nearly 50 Web sites touting an array of phony products--such as oregano oil and personal air purifiers--that promised to prevent or cure the deadly disease severe acute respiratory syndrome. 'Phrases like 'miracle breakthrough' are usually red flags," says FTC staff attorney Michelle Rusk, who advises consumers to check any supposed SARS antidotes with their doctors. A quick check of the Web site of the Centers for Disease Control and Prevention would also have told victims there's no known SARS cure."</p>
<p>Irresponsible Risky Subject</p>	<ul style="list-style-type: none"> • Fail to control the spread of infection from self (risky subject) to others (at-risk subjects) • Index cases • First SARS cases in locations • Superspreaders 	<ul style="list-style-type: none"> • Index cases, first SARS cases, and superspreaders are often explicitly described by name, age, and gender. • Subjects are often implicitly raced and nationed 	<ul style="list-style-type: none"> • "The story begins with an elderly Toronto couple who spent 10 days in Hong Kong. Kwan Sui-chu, 78, and her husband began a visit to the city on Feb. 13 and stayed one night at the Metropole Hotel. Kwan almost certainly had a chance encounter there with a retired Chinese nephrologist named Liu Jianlun, who, it turns out, had SARS. After her return to Toronto on Feb. 23, Kwan passed the disease to members of her family, including her son Tse. At Scarborough Grace, he was placed in a corner bed of the E.R.'s observation ward. Next to him was Joseph Pollack, 76, who had been complaining of an irregular heartbeat. That night Pollack almost certainly got SARS, as did another man in the room, a coronary patient whom authorities refer to as Mr. D., 77. Both Pollack and Mr. D. would infect many others." • "No one panicked when Sui-Chu Kwan died of pneumonia last month. The 78-year-old Toronto woman had...just made an arduous trip to Hong Kong. But her death was just the start of the family's problems--and the city's."

Figure A.20: Mainstream news media’s SARS discourse embeds public health urgency in the cultural imagery of science fiction, horror, and apocalyptic imagery. The following table presents examples.

Element	Examples from Mainstream New Media
SARS-associated coronavirus	<ul style="list-style-type: none"> • “look chillingly like aliens in a sci-fi film” • “mutated into a sometimes deadly infectious agent that has terrified the entire planet” • “tiny, invisible microbe” • “invisible enemy” • “invisible vermin” • “Today, as people fly across the globe dragging all manner of exotic, invisible germs in their wake, these creatures are showing their cards as never before.” • “Invisibility spawns the worst fears. Unseen, silently stalking kidnapers, sharks, chemical weapons, West Nile-carrying mosquitoes and radiation spark special fright. No serum yet for invisibility fears, except taking a deep, if masked, breath and recalling childhood. Probably more than one youngster in history expressed fears of ‘Wahs,’ invisible monsters suspected of lurking in darkness with the life purpose of jumping out suddenly to yet, ‘Wah!’ ...Still unseen by any but masked microbiologists, SARS is the latest wah to jump from the dark TV tube to infect our imaginations...”
Atmosphere of the SARS Outbreak	<ul style="list-style-type: none"> • “It sounds like the opening of a Michael Crichton thriller.” • “monster epidemic” • “SARS nightmare” • “specter of SARS” • “It was beginning to feel as if we were in a low-budget science fiction movie. There were minimal special effects—cheap surgical masks—and a monster that you couldn’t see: the virus. Even without a menacing soundtrack, it was hard to escape the sense that something was out there. Lurking. Waiting to attack.” • “ominous looking, space-suited health workers” • “Here in Beijing, SARS has spawned a booming industry, a macabre world of potions, creams, disinfectants, shots, gloves, masks and more,…” • “No one wants to contemplate the horrors of a possible runaway epidemic among the hundreds of millions of Chinese WHO live in the countryside” • “She said the atmosphere at the Canadian hospital where she worked had a surreal quality, with workers in daily staff meetings facing each other in the protective gear that has become routine in the relentless battle against SARS...’It was eerie—like you were on Mars or on a new planet,’ Dr. Perl said. ‘You sit in meetings, everyone around the table is wearing an N95 mask.’”
SARS Outbreak Grounds Film’s Relevance	<ul style="list-style-type: none"> • “The movie’s [<i>28 Days Later</i>] craft makes the dread of a killer virus contagious: viewers may feel they have come down with a case of secondhand SARS or sympathetic monkeypox.” • “Given the explosion of SARS, <i>28 Days Later</i> may seem eerily prescient here. But for Boyle and Garland, the movie reflects a vague anxiety they’ve lived with for years in England, thanks to mad-cow and foot-and-mouth diseases. ‘Our aim was to make a paranoid film,’ says Garland. ‘Something about a very dangerous exterior threat that turns out to be an interior threat. You think it’s coming through the window, but in fact it’s already in your room.’”

Notes For Chapter 1: Introduction

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⁴⁴Foucault, *Archaeology of Knowledge*, 49.

⁴⁵In his introduction to *The Foucault Reader*, Paul Rabinow notes that Foucault seems to “bracket” discourse off from social practices and institutions in *Archaeology of Knowledge*. This has caused confusion; however, Rabinow argues that Foucault never intended to isolate discourse and social practices from each other

Paul Rabinow, “Introduction,” *The Foucault Reader* (New York: Pantheon, 1984), 10.

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⁵⁶According to Volpp, civil rights protect individuals from state power and can be vindicated in court. Political rights enable citizens to participate fully and autonomously in governance. Social rights refer to the state’s legal-constitutional obligations to provide economic security for its citizens.

Leti Volpp, “‘Obnoxious To Their Very Nature’: Asian Americans and Constitutional Citizenship,” *Citizenship Studies* 5, no 1 (2001):57-66.

⁵⁷First, Volpp shows how the concept of property ownership was instrumental to civil republicanism and how Asian Americans had been restricted based upon race from owning property. Second, she engages the idea of “civic participation in the political community” as integral to the idea of citizenship. However, historic assumptions about Asian Americans as incapable of such membership have led to contemporary stereotyping. Japanese Americans were seen as disloyal during World War II and, contemporarily, Chinese Americans are seen as unscrupulous campaign financiers and government spies.

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to examine the direct and indirect costs of quarantine, including “social stigma” and “curtailment of civil liberties” (MMWR P29). Bearing these few exceptions, SARS control measures are discursively constructed as public health activities uncomplicated by political, economic, and social considerations. The public policy arena does not figure prominently in this social world’s SARS discourse. This social world also makes little mention of mainstream news media, or media in general, in its SARS discourse. The following is the only exception: “Travel alerts and advisories are disseminated through media advisories, press briefings, e-mail notifications, and State Department advisories” (MMWR P14). Media and press are mentioned once as CDC’s communication conduit to the public for travel alerts and advisories. However, this point is brief and fleeting. The mainstream news media, for the most part, is not present.

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³⁸⁴The only individual human actor present, and not even mentioned by name, is the “president of the United States”: “On April 4, 2003, the president of the United States signed an executive order adding SARS to the list of quarantinable communicable diseases” (MMWR P7). The seriousness and urgency of the SARS situation is discursively constructed with this report of executive action to include SARS as a quarantinable disease. That the “president of the United States” is the only individual human actor mentioned is a distinguishing feature of this social world.

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lose certain oversight, such as waiving FDA approval for countermeasures in times of emergencies. On the other side, private industry wants assurances that if it puts millions of dollars and years of research into developing requested products, that the government will purchase the products and provide liability protection from potential lawsuits.

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This Hearing brings attention to the SARS situation and seeks to reassure the American public by providing the following SARS-related updates: world and U.S. response; what citizens should be doing to protect

themselves; it is not yet time to panic; while much about SARS is still unknown, dedicated experts are collaborating and working on solving these unknowns. Specific information discussed include: origin stories about how WHO came to know about the epidemic; specific steps WHO took; collaborative efforts; research into the coronavirus, diagnostic tests, mutations, chains of transmission, treatment, those affected (age, occupation), vaccines, involvement of biotech companies; quarantines; travel recommendations; what China is doing; whether media coverage is accurate; available CDC and WHO resources; comparisons and references to bioterrorism; reassurances that SARS is not a bioterrorist event; much praise for CDC, NIH, and WHO; information about face masks and what American people should do. It ends on the note that Congress and American people should be reassured that the U.S. health community is on top of the situation.

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⁷⁷⁶Centers for Disease Control and Prevention, "Update: Severe Acute Respiratory Syndrome—United States, 2003," *MMWR* 52, no. 15 (18 April 2003): 332-336.

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