The Causes of Cholera:
Public Health in Post-Transition Vietnam

by

Martha Lincoln

A dissertation submitted to the Graduate Faculty in Anthropology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

2013

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This manuscript has been read and accepted for the
Graduate Faculty in Anthropology in satisfaction of the
dissertation requirement for the degree of Doctor of Philosophy.

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Abstract

THE CAUSES OF CHOLERA: PUBLIC HEALTH IN POST-TRANSITION VIETNAM

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Martha Lincoln

Adviser: Professor Victoria Sanford

This dissertation argues that market transition in Vietnam, while enabling rapid economic growth, has generated new vulnerability to a classic disease of poverty. Using a series of recent cholera outbreaks as a case study, it argues that the transition has sharpened the contradiction between the promises of development and modernization and experiences of inequity and poverty. Fieldwork was conducted between August 2009 and September 2010 in Hanoi, Vietnam among poor and near-poor urban households as well as foreign and Vietnamese public health professionals. Additional source materials included news media, weblogs, state accounts of the outbreaks, and the reports of international health agencies. Interpretive readings of these texts demonstrated how diverse actors ascribed social, moral, and political significance to infectious disease and health care in Vietnamese society, and traced how Vietnam's economic transition has reshaped moral imaginaries of risk and responsibility.

Ethnographic interviews with everyday citizens and public health workers also revealed anxieties about the contagious circuits of capitalism and the unpredictable, potentially destructive consequences of profit-motivated practices of petty traders. Such explanations of disease outbreaks gave voice to Vietnam's shifting ideological valuations of social class during a period of economic upheaval, rapid economic stratification, and massive rural-to-urban migration. However, as I argue, these perspectives, and the Vietnamese state's response to the cholera

outbreaks, neglected the more likely risk factors: lack of capacity in urban water management, sanitation, and public health.

These episodes reflect the costs of market transition for public health, especially among the urban poor. While some of the historic institutions of Vietnam's socialist health care system continue to provide security for vulnerable populations, the significance of socioeconomic inequity and health disparities is increasing. By drawing attention to public health, sanitary conditions, and living standards in the national capital, the cholera outbreaks threatened to disclose economic transition's association with deteriorating living standards and the advent of new forms of risk and precariousness. As a result, cholera's political "sensitivity" for the Vietnamese state posed significant obstacles to research. This dissertation represents the first substantive and critical account of these episodes.

Acknowledgments

It is a pleasure to thank the many individuals and institutions who have generously supported my research. I am grateful to the support of the Graduate Center at the City University of New York, not only for its stewardship of my graduate career, but also for a Chancellor's Fellowship and subsequent research travel grants that supported my initial years of study. Professors Bruce Braun, Louise Lennihan, Setha Low, Miki Makihara, and Columbia University's Lesley Sharp all made contributions to my development as an anthropologist. Particular thanks to Murphy Halliburton for his wonderful seminar on medical anthropology and for providing kind and insightful advice over the last four years, and to Karen Strassler for her advice on working in Southeast Asia, her encouragement in matters personal as well as professional, and her lucid suggestions on writing. Thanks ever to Victoria Sanford for her advocacy, and for her inspiring practice of critical and engaged anthropology. And to my students at Queens College for their acuity, skepticism, and humor.

In a time of diminishing resources in public education, the collegiality of fellow students has been all the more meaningful. I especially wish to thank Roberto Abadie, Elan Abrell, Alessandro Angelini, Carwil and Sophie Bjork-James, Risa Cromer, Daisy Deomampo, Chris Grove, Rebecca de Guzman, Christina Heatherton, Lynne de Silva Johnson, Abbilyn Harmon, Christina Heatherton, Joshua Moses, Michael Polson, Karen G. Williams, Kaja Tretjak, Kareem Rabie, Mariya Radeva, John Warner, Nathan Woods, and comrade Jonathan Stillo for the support, friendship, and encouragement they have shared. No dissertation would be complete without an acknowledgment of Assistant Program Officer Ellen de Riso, who made this project not only possible but so much more pleasant than it would have been otherwise.

I am grateful to have received a Dissertation Proposal Development Fellowship from the

Social Science Research Council, which enabled travel to Vietnam as well as the intellectual and moral support of interdisciplinary peers. Special thanks to my DPDF colleagues Seth Baum, Jennifer Carrera, Anna Jabloner, Alice Brooke Wilson, and Alice Wiemers.

I am also grateful for the support of the Foreign Language Area Studies program for my participation in the Southeast Asian Summer Study Institute at the University of Wisconsin-Madison in 2009. Deepest thanks there to my wonderful Vietnamese teachers: Thầy Bắc Hoài Trần, Thầy Nguyễn Hòa, and Cô Nguyễn Thị Thuận – and to Bob Bickner, Mary Jo Wilson, Larry Ashmun, and their colleagues at the University of Wisconsin-Madison. High fives all around to my SEASSI cohort, including especially Tuyen Le, Kevin Li, Trinh Lưu, Oliver Meeker, and Linda Nguyen. And special thanks to my patient and generous language teachers in Hanoi – Cô Thúy, Thầy Dương, and the incomparable Ms. Nguyễn Phương Thảo.

I deeply appreciate the Institute of International Education-Fulbright and Hanoi School of Public Health for giving me the freedom to develop my own research in Vietnam, and the support of a group of interdisciplinary scholars and public health researchers. I am very grateful to the Fulbright-Vietnam country office, whose dedication to international cultural exchange is inspiring. *Cảm ơn nhiều* to Dr. Trần X. Thảo, Ms. Đỗ Thu Hương, Ms. Đỗ Thị Ngọc Hà, and Ms. Vũ Thị Dịu. I am also indebted to the dedicated staff of Hanoi School of Public Health, including especially Dean Lê Vũ Anh, Mr. Nguyễn Huy Quang, and Ms. Anh Lê Thị Kim, who supported and facilitated my work. And my warmest thanks to the Environmental Health department: Lê Thị Hương, Trần Thị Tuyết Hạnh, Nguyễn Việt Hùng, Phung Xuân Sơn, Đỗ Phúc Huyền, Trương Thanh Thúy, Nguyễn Nhung, Vi Nguyen, and Trần Khánh Long.

Warm thanks to faculty, staff, and international colleagues at the Bergen Summer Research School (Norway) of summer 2010, including Dr. Kris Heggenhougen, Dr. Gunnar

Kvåle, and Dr. David Sanders.

On the West coast, I warmly appreciate Dr. Peter Zinoman of the University of California at Berkeley for his generous and thoughtful feedback on my dissertation and his support for my research. Sincerest thanks to the Center for Southeast Asian Studies at UC Berkeley for hosting me as a visiting student researcher in 2011-2012, and to the Center for Advanced Study in the Behavioral Sciences at Stanford University for welcoming me as a visiting scholar in 2012-2013.

The international Vietnamese studies community has been a generous source of intellectual support for this project. I am especially grateful to Lê Minh Giang, Patrick Gubry, Ian Coxhead, Michael Vann, C. Michele Thompson, Vũ Tương, and Nguyễn Văn Tuấn for their generous suggestions, their willingness to be consulted, and their readiness to share their research with me. I am very grateful to historians Shaun Malarney, Michael Vann, C. Michele Thompson, and Hue-Tam Ho Tai for sharing publications, primary documents, and insights with me. And deep gratitude to a diverse group of anthropologists and public health researchers specializing in Vietnam – Sarah Bales, Gertrude Bennett, Isabel Constable, Masahiko Ehara, Diane Fox, Tine Gammeltoft, Sarah Grant, Erik Harms, Jane Hughes, Michael Iademarco, Tim Karis, Judith Ladinsky, Ann-Marie Leshkowich, Jonathan London, Nguyễn Thị Kim Chúc, Nina McCoy, Melissa Pashigian, Thilde Rheinländer, Stephane Rousseau, Christina Schwenkel, Jack Sidnell, Bruce Struminger, Benny Tran, Trần Tuấn of RTCCD, Van Tran, and NIHE scientists for extending their friendship and collegiality. Special thanks to Pamela Wright and Pauline Oosterhoff of Medical Committee Netherlands-Vietnam, for their friendship, insight, and support. I am grateful to staff at the World Health Organization in Hanoi for the cooperation and information-sharing, including especially Dr. Trần. Thanks to my physician friend at Bạch Mai Hospital, and to the late Dr. Judith Ladinsky for introducing us.

It is a pleasure to thank other diverse friends and colleagues in Hanoi: John Berlow, Lady Borton, Nadja Charaby, Miguel Coulier, Dương Lê Quyên, Thảo Griffiths, Mike Ives, Hubert Jenny, Nitish Jha, Lucie and Tarek Ketelsen, Marzena Kierepka, Nghiêm Kim Hoa, Nguyễn Cẩm Thúy (for her great advocacy and kindness in sharing her home), Nguyễn Thị Thanh Thanh and her family, Nguyễn Hồng Nhung and Joe Walsh, Tamara Plush, Aaron Joel Santos, Sam Hang Tran, and Jelle van Gijn. Anh Trường at Bookworm for his friendship and providing me with so many books in Hanoi. Truly heartfelt thanks to em Đoàn Hồng Nhung for her constant friendship, support, and warmth. Best wishes for continuing success to the members of the Hanoi-based Doing Research in Vietnam crew – including especially Ginger Davis, Jim Delaney, Alec Holcombe, Danielle L'Abbé, Jason Morris-Jung, Lilly Nguyen, and honorary member Mike Dwyer. It was a privilege, not to mention fun, to exchange research resources and constructive criticism with you.

Enormous appreciation to my wonderful research assistants for their patience and support: Trần Thủy Bình, Nguyễn Mai Lan, Trinh Linh, Minh Hằng, Nguyễn Phương Thảo, and Sam Hang Tran. Most heartfelt thanks to Ms. Nguyễn Thanh Mai for her invaluable transcription of my taped interviews. A warm thank you to Dr. Dorian Caal for providing input into survey design, and to Dr. Rebecca Lincoln for her help with statistical analysis. I owe sincerest thanks, as well as an intellectual debt, to all my respondents in Hanoi for their time, hospitality, and self-disclosure.

Hugs and high fives to my friends, comrades, and family for keeping me happy and motivated throughout graduate work. Thanks especially to Christian Amundson and Alice Cho, A. J. Austin and Zak Hubbard, Jennifer Carrera and Courtney Cuthbertson, John Chavez and Lisa Gershenson, Kathleen Frederickson, Juanita Garciagodoy and George Rabasa, Molly

Howard and Nash Lincoln, Ethan Heitner, Lin Hsu and Jason Bailey, Noah Kaye, Judy Rukat-Bussell, Emma Spertus, and Alexandria Wright and Johanna Rothe. Twenty years of thanks to D. M. Kloker, with praises to his dedication, compassion, and radical honesty. Warmest thanks to cousins and in-laws Mark Zuss and Lisa Lincoln and to Evelyn and Drew Thompson. Love and thanks beyond words to my parents Bruce and Louise Lincoln, to my sister and brother-in-law Rebecca Lincoln and Jay Astle, and to my grandmother Gerrie Grossman, for their integrity and generosity and love. Most affectionate thanks to my partner Hsuan Hsu, for his brilliance and humor and sweetness and patience over the duration of this project. Perhaps it is needless to add that all mistakes and shortcomings are my responsibility.

Note on Vietnamese Orthography and Citations

Since the 17th century, Vietnamese has been written in a romanized alphabet called *quốc ngữ* with six tone markers; several other phonological diacritical markers may also be superposed on vowels a, e, o, and u. To minimize ambiguity in Vietnamese, I reproduce these diacritics, except in the place names most frequently repeated: Việt Nam appears as "Vietnam,"[1] and Hà Nội as "Hanoi."

However, when citing Vietnamese authors, I have not introduced diacritics where they did not originally appear, and in the bibliography, I have refrained from re-indigenizing proper names; hence, authors named Pham appear alongside authors named Phạm. Because some Vietnamese authors publish in both English and Vietnamese, the names of some contributors appear both with and without diacritics, as they appeared in the original publications.

Citing Vietnamese authors represents another challenge for foreign authors, because Vietnamese names are written with the surname first. A man named Nguyễn Văn Huyên would typically appear as Nguyễn, Huyên Văn in an English-language bibliographic citation, but in virtually all cases I have retained the Vietnamese order of names in the bibliography to avoid introducing additional confusion. Given the large number of Vietnamese authors sharing a limited number of surnames, in-text citations provide full names. Quotes from interview respondents provide a fictive kin term that indexes gender and age, as it would be improper to identify anyone, especially an older person, by either their first or their last name without the appropriate honorific.

[1] The geographic focus of my study is contemporary North Vietnam. Vietnam is the modern name for a place that has been known by many names, with name changes often occurring between dynastic changes and shifts in territorial borders. Until the 19th century, the state was officially known as Đại Việt (Nhung Tuyet Tran 2005:51). During the French colonial period, north Vietnam (or *Bắc Bộ, Bắc Kỳ, miền Bắc*) was called Tonkin; central Vietnam (*Trung Bộ, Trung Kỳ, miền Trung*) was known as Annam, and south Vietnam (also called *Nam Bộ, Nam Kỳ, miền Nam*) was termed Cochinchina. For simplicity I refer to the region as Vietnam, although this is sometimes an anachronism.

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Introduction

Cholera is caused by the gram-negative toxigenic bacterium *Vibrio cholerae*. – BM Nguyen et al. 2009

I remember 1945; the cholera was uncontrolled, terrible. People were hungry, so they ate anything they could catch hold of, contracted cholera, and died. –Trần Xuân Sơn[2], male, 82 years old, Hoàn Kiếm district, Hàng Gai ward, August 24, 2010

The ministry said contaminated locally made shrimp paste or a raw fish and vegetable combination and fermented pork roll were the likely cause of the diarrhea. (…) 'We have been informed about severe acute diarrhea,' spokeswoman Dida Connor said. 'We haven't had any confirmation of cholera.' – "Cholera Reported in Vietnam's Diarrhea Outbreak," Reuters, November 6, 2007

Diarrhea is often caused by eating raw food and cold food. And food you leave to cool, bacteria can get into it. … The time there was cholera, I commonly heard that it was about eating and drinking; food: shrimp paste, raw food, eating prepared foods, and blood pudding. – Nguyễn Bích Ngọc, female, 46 years old, Long Biên district, Sài Đồng ward, August 11, 2010

Martha Lincoln	What was the source of the cholera outbreak in Hanoi at the end of 2007?
Anh Trung	People said that the source was some people renting who went back to their home village for a few days and ate carelessly (*bừa bãi*); when they came back they brought the disease. So the area where they were renting was frequently affected.
ML	Did you read it in the paper or hear people say that?
Anh Trung	I overheard it here, because here that disease started in the area where people were renting; the hygiene was worse. I've also heard people say "This guy has just been back to his home town, then got that disease." – Phạm Vũ Trung, male, 38 years old, Hoàng Mai district, Thịnh Liệt ward, 3 March 2010

[2] Names of all interview respondents have been changed.

The subject of this research is cholera, a "classic disease of the nineteenth century" (Rosenberg 1987:3) which continues to affect twenty-first century people and places. Unlike "newly emerging diseases" such as Severe Acute Respiratory Syndrome (SARS), exotic flu strains, and novel zoonotic illnesses, cholera typically does not inspire paranoid, millennial affects or the ominous sense of a world out of balance; unlike HIV/AIDS, it does not call up associations of devastating mortality among the world's poorest populations. Nonetheless, cholera is not diminishing: despite the relative simplicity with which it can be treated and prevented, cholera remains a globally significant epidemiological burden, more prevalent today than a decade ago.

Defining what cholera actually is has also proven to be more elusive than its association with the 19th century would suggest: recent research has shown prior understandings of cholera pathogenesis and epidemicity to be provisional, and destabilized the assumption that cholera is caused by a pathogen that is constant across time and space. Scientifically, it is not fully resolved what cholera "is": as Christopher Hamlin writes, *Vibrio cholerae* has "turned out (like other microbes) to be a repository for varying bits of rogue DNA…While we know vastly more about it, the general entity 'cholera' is less fixed than at any time since 1830" (2009:16). Even the history of cholera's origins is uncertain: in his history of cholera in Africa, Myron Echenberg acknowledges that "How modern cholera emerged remains a mystery" (Echenberg 2011:17).

This is not to say that cholera cannot be explained. On the contrary, multiple potential explanations may be cited to explain any given occurrence of the disease. As the quotes above suggest, cholera's slippery ontology challenges attempts to pin down its causality. Besides being a medical phenomenon, cholera is rich with historical, geographic, and moral associations.

Further, in any given case of cholera – or cholera outbreak – risk factors can be identified at multiple geographic scales, from the microscopic to the transcontinental. As a result, debates over the "real" cause of an episode of cholera shed light on the intellectual premises and worldview of the author of the model of causality. My research is premised on the idea that studying cholera from this perspective allows a way into contestations over political and cultural conflicts. In seeking the source of cholera, identifying scapegoats, and proposing solutions, individuals and agencies also put forward model visions of society, morality, and "civilization." Who is to blame for cholera – governments, experts, the private sector, or the general public? What matters most, individual hygiene, or public sanitation? Municipal food safety ordinances, or climate? Microbes, or poverty?

In the chapters that follow, I examine a series of cholera outbreaks that occurred in contemporary Hanoi, North Vietnam. The outbreaks, which began in 2007 and appeared to conclude in 2010, were a particularly opportune case study because cholera is not endemic in North Vietnam; as a result, they prompted a great deal of public discourse, debate, and engagement. Materially and symbolically, they contravened both the heritage of Vietnam's socialist public health apparatus and the more recent appreciation of its national economy. The causes of the outbreaks and the pathways of contagion challenged epidemiological explanation, such that the reemergence of cholera in Vietnam provided an opportunity to explore the worldviews that helped make sense of anomalous events.

I focus on how diverse actors explained and responded to the cholera, and also inquire into the material causes that may have contributed to structuring vulnerability to an outbreak of this disease. During fieldwork, interviews with diverse respondents in Hanoi helped me gain insight into the local significance of cholera and different models of causality, or "geographies of

blame" (Farmer 1990). I was particularly interested in the ascribed causes of cholera outbreaks: my multiple epigraphs suggest the breadth of claims about their source and nature. Many accounts of cholera, both lay and "official," deviated from a biomedical or bioscientific idiom to take on additional significance referencing society, politics, culture, and morality. These symbolic attributes of disease outbreak deserve not only an interpretive reading: they also yield valuable insights about the terms of life in contemporary Vietnam, a country now multiply post-colonial, post-war, and post-structural reform.

In attempting to make sense of cholera, I draw on the work of anthropologist Diane Niblack Fox, whose anthropological inquiry into the social and political life of Agent Orange in Vietnam establishes valuable precedent for research on topics which exceed "the limits of what is currently known by science" (Fox 2003:81). As Fox shows, contestation over the nature and scope of health damage inflicted by the wartime use of dioxin in Vietnam has yet to be resolved; given the limits to accessing or generating comprehensive, totalizing data sets, conclusive answers about the chemical's impact will probably always be elusive. Resultingly, she engages Agent Orange as "one significant ghost" (Fox 2007) where cultural meanings are made in the absence of scientific knowledge, and as "an intersection" (Fox 2003:81) where contesting claims and perspectives aggregate to make sense of experience and create meaning. In similar fashion, I have treated cholera as an intersection where meanings drawn from historic experience, society and politics, moral imaginaries, and scientific expertise have collided. Accordingly, my research uses historical, ethnographic, and biomedical sources to elucidate the significance of cholera in present-day Vietnam, and relies on qualitative, interpretively oriented methodologies.

From the first, this enterprise was challenged by imbalances of data: surfeits of information in some locations are balanced against absences of information in others. For

example, the search for cholera's causes in 2007 resulted in the naming of so many potential causes as to generate a "fog of information" (Channel News Asia 2008) while in other areas, the lack of published data and specific findings made it difficult to even speculate about the scope and spread of disease. These themes recurred during field research, such that one of my dominant theoretical chords is agnotological: I am interested not only in understanding the causes of cholera in Vietnam, but in understanding the absences, silences, and different configurations of missing information that surround it. Cholera ultimately registers as an indeterminate object: partial, contested, and overdetermined by the social and institutional positions of the individuals and organizations that define it, narrate its significance, and act to prevent its spread.

At the same time, however, cholera is a real phenomenon, not the mere artifact of discourse, and my research also attends to the material factors that structure the epidemiology of cholera in Vietnam. Particularly, I argue that part of the interest of the cholera outbreaks lies in the potential causes that were rarely named publicly. Environmental factors, infrastructural weaknesses, poverty and disparity, and the degradation of national health systems have represented common sources of cholera outbreaks in other parts of the world, as in the Haitian outbreaks that began in 2010 and the cholera epidemic in Zimbabwe in 2008. But although these factors also obtained in North Vietnam in 2007, they were not among the causes most frequently alleged to have spread thousands of cases of cholera across the region. Cholera threatened to reveal the contradictions of life in post-reform urban Vietnam, but these factors were routinely suppressed in news media and scientific reports. As a result, cholera was able to capitalize on the unique political economic circumstances of Vietnam: an enervated national health system, coupled with tightly controlled health services, state science, and media, all of which colluded in

misidentifying cholera and its causes. This proved an ideal environment for cholera to spread rapidly and cryptically through the "modern" urban setting of Hanoi.

In Chapter One (Doing Research in Hanoi), I describe the setting of my research and the unique factors that influenced my approach to carrying out interviews in Hanoi with city households and variously placed "experts" in university, government, and nongovernmental settings. Describing Hanoi and its demography during a time of rapid socioeconomic transition following market reform, I present the field sites where I conducted interviews with "officially" poor households, a strategy I pursued based on the observation that the poor families' perspectives on and experiences of cholera epidemiology in the Hanoi outbreaks was important but overlooked in virtually all accounts.

Subdivided into residential quarters with unique local characters, Hanoi is an internally complex city, not only because of its increasing degree of economic development and connection to global places. Instead of assuming "the field" as a given, I describe how I drew on small data samples and absences of official information to construct *a* field consisting of a series of Hanoi districts for interviewing with city households. I also explain how the context of foreign anthropology and US-Vietnamese relations complicated my encounters.

In Chapter Two (Modernity, Morality, Causality: Epidemics and the Social Life of Cholera), I review medical anthropological and other literatures that have explored the social significance of epidemic disease outbreaks. To contextualize the struggles over cholera's significance in present-day Vietnam, I describe historic debates on the causality of cholera, and also focus on the construction of cholera's associations. Although some of the world's largest cholera pandemics have taken place in Western Europe, scientists have often associated cholera's origins with Asia, poverty, and underdevelopment, overlooking its tendency to spread

aggressively in conjunction with "modern" institutions and economic forms. As I discuss, the history of scientific research on cholera illuminates intellectual struggles over the nature of contagious disease itself. I close by describing the literature on cholera in Southeast Asia and Vietnam, supporting the discussion of recent cholera outbreaks in Hanoi.

In Chapter Three (Counting, Containing, and Explaining Cholera in Hanoi, 2007-2010), I describe the series of cholera outbreaks which affected Vietnam's capital over four years, drawing widespread attention nationally, regionally, and worldwide. Because rapid economic growth has dominated the news in Vietnam for the last twenty years, these epidemics were widely framed as anomalous, atavistic mishaps, and were attributed to institutions and behaviors perpetrated by social undesirables. The scope of the cholera was also very likely underestimated. As I argue, these accounts of cholera and its causes were spurious, but they did important ideological work, reinscribing gendered, classed, and occupational hierarchies in their accounts of which social groups were at risk and which posed a threat to the body politic.

In Chapter Four (Medicine and Public Health in Vietnam), I describe the development of the health care system in Vietnam as it has progressed through the dynastic, colonial, and socialist periods to the present day. As many sources suggest, Vietnam's national health indicators improved remarkably during the socialist period. Though market reforms have influenced the social determinants of health in Vietnam, as well as radically changing the landscape of seeking and receiving health care, the moral meanings of health and hygiene in modern Vietnam remain strongly structured by state measures to prevent and control infectious disease.

A section on traditional medicine provides an overview of the pluralistic medical traditions that are practiced in Vietnam and the styles of thought that are commonly employed to

explain illness episodes. Vietnamese people often construct ill health in terms of non-allopathic medical philosophies and combine forms of medical knowledge to prevent and treat illness. These medical styles coexist in household repertoires of medical resort, such that multiple causes may be ascribed to an illness, and multiple cures may be sought in case of necessity. As a result, multiple and intersecting models of accounting for disease are at work in Vietnam, even in "official" accounts of disease causation.

Finally, I provide an overview of the history of cholera in Vietnam, assembling textual accounts of cholera epidemiology in Vietnam from the late dynastic period to the modern period. As I argue, the details of this history are significant because in present-day Vietnam, cholera is marked by its historic association with conquest, colonization, and the accompanying social and economic upheaval precipitated by the arrival of foreigners and the "modern" infrastructural impositions of the French colonial period. These associations continue to contribute meaning to cholera in Vietnam, making it not only a "disease of poverty," as it is figured internationally, but also a disease associated with the periods of despotism and foreign control during which it historically flourished. Cholera evokes filth, exploitation, famine, and the paradoxical forms of modernization formerly imposed by colonial rule. By contrast, cholera eradication is associated with independence and the restoration of national sovereignty. This advance is recounted in narratives celebrating the high modernism of socialism, the extension of modern biomedical principles to the entire population, and the improvement of living conditions via mass mobilizations for education, hygiene, and sanitation. Cholera's recrudescence in post-market reform Vietnam was cognitively dissonant for a state hoping to reinforce its image as a modern socialist country with a market economy.

In Chapter Five (Poverty, Environment, and Health: Agnotology and Unpopular

Theories), I address the way in which ignorance, confounding, and lack of information shape what is knowable about the cholera epidemics that took place in Hanoi. While some skeptics argued the "knowledge" that circulated publicly about the cholera outbreaks was "science lacking information, and information lacking science" (Nguyễn Đình Nguyên 2007), I reach a less positivistic conclusion, focusing on how, amid a "fog of information," some outbreak narratives came to be concretized as common sense while others slowly dissipated. I go on to address some of the "unpopular" models of causality – which were poorly detailed or discussed only in private settings – focusing particularly on the significance of urban poverty, the demise of the national public health infrastructure, and the degradation of Hanoi's environment, particularly with respect to water and sanitation. Without the evidentiary basis to make a firm case for these potential pathways to cholera outbreak, I can only gesture to them as possibilities, but nevertheless I acknowledge the symbolic significance of their neglect in media reports, policy statements, and scientific accounts. Cryptic pockets of urban poverty, Hanoi's fragmentary water and sanitary infrastructure, and a failing public health system are consequences of the unique progression of Vietnam's economic transition – as is the biopolitical minimization of economically damaging information regarding cholera epidemiology. Taken together, these features afforded a hospitable environment for the propagation of a dangerous and fast-moving infectious disease.

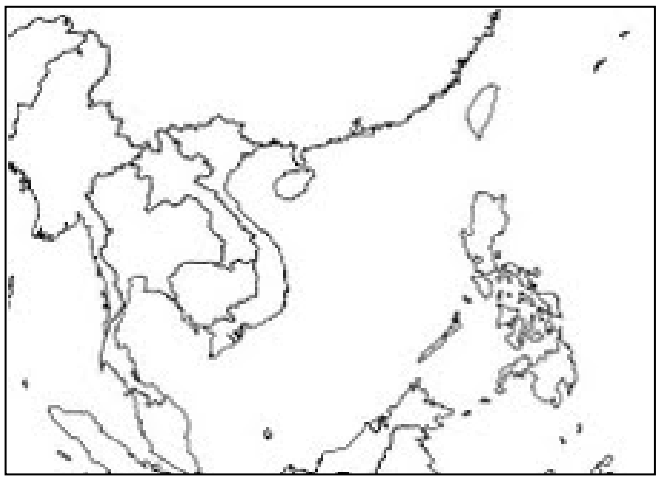

Figure 1: Vietnam; Figure 2: Southeast Asia. Maps courtesy of Mike Dwyer.

Chapter 1

Doing Research in Hanoi

Ông Thanh	Does this interview have any benefit (*lợi ích*) for politics?
Martha Lincoln	It's mostly about hygiene and food safety.
Ông Thanh	(*Looking at the consent form*) All right. It looks like you've already defended your doctoral dissertation.
ML	No, not yet. Afterwards I'll go to work.
Ông Thanh	Now I have to sign here?
ML	Yes, that's fine, thank you. This is your copy that you can keep.
Ông Thanh	Thank you. Because this is about hygiene and health, food safety, and about life (*cuộc sống*), then there's no problem. This went past the head of the district (*tổ trưởng dân phố*), past the Vietnamese Communist Party, so everyone trusts it. If not, and if no Party member had brought you, then the people wouldn't participate.
ML	That's right, older uncle (*bác*). May we begin? May I ask

how old are you this year?

Ông Thanh — Seventy-four.

ML — Your address is?

Ông Thanh — House __, Alley ___, Road __, Long Biên district, Hanoi. (…)

ML — And, this is your house?

Ông Thanh — This is the house of our first son. During the last war, this house was large, but when we evacuated it was all destroyed. We came back and had this place of residence and that was good enough. We raised our children, fed them and sent them to school. In Vietnam now, fees for studying are very expensive. The hospital is expensive, eating is expensive, everything is expensive, it's miserable (*khổ*). The salary of an engineer graduating from school is 2.5 million, but even that's not enough to live in Hanoi. But especially in Saigon, 4 million VNĐ isn't anything. 30,000 for a bowl of *phở*, 40,000 for a bowl of *phở*, you can't eat. Now life is like this, it's good, in another country without good leaders there would be 80 million people starving now. You have to say that Vietnamese people are accustomed to suffering misery. How many years of war. A thousand years fighting with China. And in the last period of hunger and misery; I was hungry too. In 1945 there wasn't even one seed of rice; two and a half million people died of hunger.

But now, life is very happy. Every country has good people and bad. In America, the majority of people are good, but the leaders want to invade, to go to war. As for the people, no one wants war, they're forced to go, so they go. The Vietnamese people are also like that, no one wants war, but because of a bit of rice or a piece of clothing, because of the nation, they have to sacrifice themselves. All the children of this generation just coming into life just study theory, they haven't seen what war is. War destroys people terribly.

That's enough, though, we're talking with people who love peace, who came to work in Vietnam and help the country develop. There's no problem at all. – Nguyễn Văn Thanh,

male, 74 years old, Long Biên district, Đức Giang ward, August 3, 2010.

It's hot. I'm sitting on a wooden stool in a small concrete house sweating through my clothes, interviewing an "officially poor" family in their home. The tape recorder is running, which helps: the speaker is explaining his situation faster than I can scribble down the particulars. Both engaging specific details of everyday life and referencing national and world history, his narrative follows a ruminative, philosophical arc. With the ritual exchange of countersigned consent forms only half over, I'm aware my "respondent" is controlling the conversation, layering memory, analysis, and critique before I've quite finished writing down his name and address. I also get the sense that acknowledging that I was being forgiven was a precondition for the rest of the dialogue.

I begin with this interview excerpt firstly to show how a conversation that is intended to be "about" cholera can also include other topics which are not irrelevant, and secondly because it distills a perspective that I came to understand as uniquely Vietnamese.[3] This interview was conducted towards the end of my field research, by which time I was familiar with the many questions, ambiguities, and uncertain framings that could open such an exchange. I include it not only to reproduce the curious, disorienting experience that field research can entail, but to impart a sense of some of the contours of the national situation as understood and expressed by this local expert. I quote Mr. Thanh in part to help the reader appreciate the immediacy of history as well as the rapidly changing conditions of life in contemporary Vietnamese society. More

[3] While claiming that these remarks represent a common form of felt Vietnamese identity, I would not claim that this individual speaks on behalf of all others. Notably, this is the testimony of a senior man, residing in the national capital, who had formerly been a skilled worker for a state-owned enterprise. In casual conversation as well as interviews, I found that men tended to expound in this political-historical idiom far more than women, who were often more circumspect in their speech and less likely to assume a pedagogical role. Eliciting a woman's perspective would result in very different remarks; ethnic minority speakers, speakers of different class position or residence, and speakers of different ages would also be likely to speak to distinct experiences.

explicitly than most respondents, this man spoke directly to the concerns which structure the intense mixed feelings of mistrust, curiosity, and tentative forgiveness that Vietnamese people, especially of older generations, often bear towards Americans.

I liked Mr. Thanh and his humorous, serious style of address. I was grateful to him and his wife for speaking freely, for making me and my research assistant feel welcome, and for taking plenty of time getting to the point. I also appreciated his willingness to address himself to me at length, acknowledging the differences that separated our perspectives while still speaking his mind. While assuming that culture and history had affected us very differently, he clearly also believed that discourse could traverse the distance between a "Western" person and himself. Combining the immediacy of personal recollection with a politically orthodox take on some foundational moments of Vietnam's historic national struggles, his remarks are illuminating for their sweep.

Beyond this, I believe Mr. Thanh's statement gestures towards the ethical dimensions of national history as many contemporary Vietnamese people frame it when engaging a foreign audience. Local moral understandings undergird a worldview in which national identity, informed by experiences of violence and sacrifice, maneuvers to maintain both its foothold and its alignment with goodness in a world containing "people who love peace" and aggressors. Similarly, in a tenor that is both absolute and relativistic, Mr. Thanh stated that "Every country has good people and bad" – a way of suggesting that I, as an American, might yet be a good person and someone he could accept as a visitor in his home. This statement expresses a generous sentiment, given the amount of suffering that Americans recently authored in Vietnam. The speaker's claim that "Vietnamese people are accustomed to suffering misery" while accurate, is a prodigious understatement. In the 20th century alone, the Vietnamese population

endured an untold amount of social, political, and economic turmoil: colonization, famine, revolution, and wars.

In the present day, as Mr. Thanh's remarks suggest, life and making a living remain precarious and paradoxical enterprises. His remarks curiously mix observations together, critiquing the newly high cost of living while qualifying "life like this" as "good" – suggesting that the material successes accomplished by the political architects of Vietnam's new capitalist economy inform the continued necessity of sacrifice. However, historic ambitions for the common development of the socialist masses have been replaced with acquiescence to the transition's inevitable creation of losers as well as winners. The precipitous growth of the national economy, evidence of long-deferred material prosperity, has also represented, for some, another challenge to prospects for making a living.

To place the remarks of my "older uncle" in their national context for "foreigners": "Vietnam is a country, not a war": the world's 65th largest country and its 11th most populous. The political capital is Hanoi, in the north; the 19th century capital of Huế is the major city of the central provinces; the hub of commercial enterprise is Hồ Chí Minh City (still commonly called Saigon) in the south. Vietnam's approximately 85 million people participate in a complex, internally heterogenous sociocultural world which is, while long subjected to incursions of regional and global influence, still highly locally particular. The legacies of the Second Indochina War[4] continue to shape national consciousness, despite the fact that some 60 percent of the population is under the age of 30, and therefore, as Mr. Thanh said, only "study theory" in the absence of personal experience. Since the mid-1980s, the nation's centrally planned economy has been incrementally replaced by a market economy, while the government continues

to uphold a policy of single-party socialism.

The Communist Party's assertive presence is ubiquitous in everyday life in Vietnam – an unremarkable reality for most Vietnamese people, but unnerving for foreign visitors. Political information is communicated to the citizenry via state-controlled print and broadcast media, socialist-realist billboards, red banners draped over city streets to announce national holidays and policy initiatives, and neighborhood loudspeakers that play patriotic music, news reports, and announcements every morning. All official memoranda begin with a text block including the words "Socialist Republic of Vietnam" and the national motto of "Independence – Freedom – Happiness." While some of my friends spoke critically about the state, many of my respondents, colleagues, and friends evidently regarded the Vietnamese Communist Party (*Đảng Cộng sản Việt Nam*) as a guarantor of their material security as well as of the interests of the nation and the population.

As Mr. Thanh's commentary might also suggest, people in Vietnam also often understand state-sponsored research as a political good insofar as it dovetails with the goals of the Party. This is, in part, because research must pass through a partially political review in order to come into being. Before interviewing "the people" (*người dân*[5]) – that is, before beginning an officially mediated process of data collection with people not already known to me – I had received multiple permissions (including approval from a local Institutional Review Board and from city, district, and ward-level health authorities) which sanctioned me to pose approved

[4] The Second Indochina War (1965-1975) is known in the United States as the "Vietnam War" and in Vietnam as, among other names, the "War of National Salvation against America" (*chiến tranh chống Mỹ cứu nước*).

[5] Used in everyday speech, the term "the people" (*người dân* or *người bình dân*) is a socialist-inflected term which implicitly refers not to the entire population (*dân số*), but roughly equivalent to "hoi polloi." Political elites or other members of professional classes would not be assumed to belong to the category *người dân;* at the other end of the social order, social undesirables would not be included. Loosely, when I was interviewing "common people" in their homes, I was interviewing *người dân*; when interviewing university professors, I was not.

questions.[6] While state approval could not make me entirely politically palatable to some respondents who were old enough to remember American bombing raids against North Vietnam, these sanctions lent a degree of comforting officialdom to my visits and requests. At the very least, the red official seals (*dấu đỏ*) on the forms I presented guaranteed that no one would get in trouble with the authorities for talking to me.

Anthropological Research in Vietnam

Modern ethnological research on Vietnam by foreigners dates to the colonial period, when French researchers such as Pierre Gourou (1936) and Charles-Édouard Robequain (1929) authored thickly described accounts of village life under French colonial rule, often with the support of Vietnamese assistants (Kleinen 2005). By the mid-1940s, political conditions in North Vietnam (then also known as the Democratic Republic of Vietnam, or DRV) prevented foreigners from conducting immersive research, though celebratory accounts of the period by sympathetic journalists – such as *North of the Seventeenth Parallel* (1957) by the Australian journalist Wilfred Burchett – were permitted by the Vietnamese Communist Party.

In the period between the defeat of the French at Điện Biên Phủ in 1954 and the end of the Second Indochina War in 1975, few foreign researchers were permitted to access field sites and local populations in South Vietnam. During war as well as in the post-war period, when North Vietnam reconquered the Southern portion of the country and established rule over reunified Vietnam, fieldwork in northern Vietnam was virtually nonexistent. While Taylor asserts that prior to the late 1980s, no fieldwork-based academic studies of Vietnamese society were published by foreign writers (Taylor 2001), this statement overlooks contributions such as

[6] Although my questionnaire was dominated by questions about everyday food safety measures, family health and

Hickey (1964) and Rambo (1972) – possibly because of their entanglement with US government interests, a condition which entailed ethical conundrums for social scientists (cf. Harms 2000).

Market reform in the mid-1980s and the subsequent normalization of diplomatic relations with the United States enabled an influx of foreign research in the 1990s. Over the last two decades, concomitant with Vietnam's increasing economic and diplomatic openness, ethnographic literature on Vietnam by foreign researchers has developed and diversified. A body of literature based on empirical research is still under construction for Anglophone scholars; in Vietnam, too, "objective" research is prized by researchers interested in social issues. At my sponsoring institution, the Hanoi School of Public Health, I received input from colleagues who were eager to pass on advice about implementing a successful research protocol. Scientists at other institutions also encouraged me to maximize my time in "the field" (*thực địa*[7]) wherever possible, stressing the importance of objective, immersive research with members of disadvantaged social classes. As one of these colleagues pointed out, I would never understand what was happening in society were I just to "sit at the university all the time." Taking this advice seriously, I spent as much time as possible pursuing the themes that interested me outside of my office and beyond the screen of my laptop computer. At the same time, mindful of the heavy-handed analytic frameworks that foreign researchers have too frequently superimposed over Vietnamese society and culture, I attempted throughout fieldwork to approach research with a reflexive, relativistic, and revisable attitude, and to refrain from attempting a myopic pursuit of "the truth" or "the real." Although a great deal of original research is now conducted in Vietnam, the background literature on many topics remains piecemeal and challenging to interpret. As fellow researchers let me know, the tables of demographic, epidemiological, and

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health care seeking, and household socioeconomic status, I did also ask directly about cholera and diarrheal disease.

other basic data that I dug out of libraries and archives were often generated via methodologies which complicated their unproblematized representation of reality. As one American researcher opined bluntly, "Data in Vietnam aren't worth the paper they're printed on." Because official statistics may not represent reality accurately, anthropological methods are uniquely well suited to Vietnam.

As anthropologist Hy Van Luong suggests, the past two decades in Vietnam have seen a florescence of research on "topics directly related to socioeconomic development (e.g., ecology, economy, and health). Research on gender, kinship and social organization, and rituals has also been allowed" (Luong 2006:373). This has included ethnographic studies of kinship, family, gender relations, and women's reproductive choices (cf. Gammeltoft 1999, Rydstrøm 2003); urbanization, the revival of religion (Kwon 2006, Malarney 2002); and the history of memory in modern Vietnam (Hue-Tam Ho-Tai 2001, Schwenkel 2009). My research technically belongs to one such set of topics considered permissible by the Vietnamese state, though the neat compartmentalization between politics and the ostensible subject of my questioning – "hygiene and health, food safety, life in general" – is, in practice, challenging to maintain. The question that my older uncle asked at the beginning of our conversation – "Does this have any benefit for politics?" – is challenging to answer without a long digression into what "politics" really means. In Vietnam, the use of the word "politics" (*chính trị*) usually refers to the technocratic activities that are the province of public officials, and rarely connotes more populist affairs. So although I answered "no" to Mr. Thanh's question, I later regretted not having supplied a more descriptive answer. While my research probably does not have much benefit for certain kinds of "politics," this is not because I think health is estranged from political issues at all. Nor do I conceive of

[7] The etymology of this Sino-Vietnamese word suggests that "the field" is a place where reality is located.

"health" and "disease" as technical problems; I frame them as properties of bodies and populations which are always already inherently politicized.

In Vietnam, the epidemiology of cholera has long been influenced by more immediately local social, economic, and political forces: indeed, the most recent outbreaks of this disease were so "sensitive" (*nhạy cảm*) that I was explicitly warned by a health station director against "politicizing" (*chính trị hóa*) my findings; as he said, "Health is health, and politics is politics." The government's desire to segregate these two domains, and to minimize the appearance of anything amiss in either one, made it challenging to surface epidemiological data on the cholera outbreaks. As an ironic result of such efforts to suppress discourse on cholera, however, the disease became a good candidate for anthropological research – a topic whose significance exceeded biomedical representations, and drew on political, economic, historic, and social contexts to generate meaning.

This is, admittedly, a perspective drawn from American-style anthropological research, with its open-ended questioning, its inductive research design, its commitment to long-term participant observation, and its tendency to use social theory to make sense of empirical observations. These methods are neither widely taught nor practiced by local researchers in Vietnam. For these reasons and many others, a Vietnamese researcher studying cholera would have produced a very different account.

Self and Subjectivity in Vietnamese

During the course of research in Hanoi, I found that as I moved between contexts, I struggled to figure out how to present myself to the people I met. Sometimes I introduced myself to colleagues and to interviewees as a researcher (*nhà nghiên cứu*); sometimes more

specifically as an anthropologist (*nhà nhân chủng học*). Despite the relatively limited presence of academic anthropology in Vietnam, the discipline is not unknown. There are two words for "anthropologist," and though the latter term is preferred to *nhà nhân loại học* – which references the typologization of humans –, *nhà nhân chủng học* still sounds "like racial discrimination" to some ears, as one health station nurse pointed out, laughing at me in a friendly way. Another new friend pointed out that the odious Paul Doumer, the nineteenth-century Governor General of Indochina, was also an anthropologist. Feeling a little abashed by that association, I began introducing myself as a graduate student more frequently.

While Americans are conditioned to refrain from calling attention to the differences in age, rank, and marital status in social interactions, hierarchy is a factor that never goes unmarked in Vietnamese social life, given that speakers are required to select relative pairs of third-person pronouns to mean "I" and "you" depending on their respective statuses. That is, an individual selects specific fictive kinship terms to mean "I" and "you" depending on the gender, age, and rank of herself and her interlocutor, and her interlocutor reciprocates (sometimes choosing different terms if she feels they would be more appropriate). Different pronouns are used to refer to people from infancy to old age; social status, profession, and kin relations also factor into terms of address. Rules for their use may be followed, interpreted, and broken to express the nuance of social relations between intimates and strangers (Hy Van Luong 1984); "personal pronouns identify not just age but the parameters of exchange between individuals" (Harms 2005:13). As one anthropologist of gender suggests, the Vietnamese "system of reference both reflects and creates the social order" (Rydstrøm 2003:xix).

As it was, my professional identity often seemed less important than other aspects about the persona that I brought into research situations. Surveying and interviewing is carried out

frequently enough: the very first prospective respondent I approached in Hanoi's Hoàng Mai district with a request for an interview politely declined, saying he had recently responded to a survey about wastewater. But the presence of a foreigner making her way down an untrafficked city lane was surprising for many urban residents, especially outside the districts of the city that are commonly frequented by tourists. While my respondents among "the people," i.e. working- and middle-class people in their homes, sometimes declined to call attention to my foreignness, others found ways to relate to me despite my unusual appearance. Some commented that I was "small-boned" like a Vietnamese person and not "big and fat" like other Americans; others asked me if I was going to marry a Vietnamese man; others pointedly referenced abuses perpetrated by Americans during the war. Given the significance of gender and kinship relations in formulating Vietnamese identity, many people – university and NGO professionals as well as *người dân* – seemed to feel more at ease when they could ask for more information about me and establish my position in the relative hierarchy of age, gender, and marital and family status.

While some respondents clearly felt defensive and uncomfortable in the interview situation, others were curious about me in a friendly way and made hospitable gestures that facilitated our getting to know one another further. One sign of a mutually pleasant, relaxed interview was a period of socializing before or after or during the "official" part of the conversation. When respondents showed me an album of family photographs, asked to see some evidence of my personhood outside the capacity of researcher, offered refreshments, teased me, told jokes, or gave voice to stories, opinions, or complaints without prompt, I had the feeling that the answers they had provided in the conversation had been more sincere and less rote. I also felt relieved to have been given an opportunity to present myself as more than just an intrusive, deracinated foreigner with a clipboard and forms to sign.

But regardless of how my identity was left, and regardless of the comforting way that the two-way exchange of personal information improved a conversation, I was always being reminded in Vietnam that foreigners could not expect to make much sense of local culture without an explanation. Frequently the kinship relations, locations, and experiences that my respondents related were perplexing. And indeed people often anticipated correctly that a foreigner would misunderstand them. "You're Vietnamese, *you* understand," men and women would often say during interviews, turning to my research assistant to get a point across. It would be dishonest to avoid acknowledging this experience: the haunting impression that the literature I had perused in preparation for fieldwork had prepared me only partially to understand everyday Vietnamese sociocultural realities. This account proceeds in the vein of a provisional reading, not an authoritative one. I have attempted to document the sources of my claims carefully and to make my process of interpreting their significance explicit, so my conclusions remain open to reinterpretation and revision.

In Hanoi

Once a "nice, quiet" (*yên tĩnh*) city whose traffic mostly consisted of bicycles, present-day Hanoi is on its way to becoming a global city, a status marked by the presence of transnational corporations, projects funded by foreign aid and investment, and an internationally diverse slew of foreign researchers as well as tourists, and scores of European-, Asian-, and US-based nongovernmental organizations. The city boasts numerous beautiful features that have survived the sequential destructions of war and post-war economic development. Baobab trees spread shade under drooping, elaborately gnarled branches; the city atmosphere is cooled in spots by lovely lakes; the city's extremely heterogeneous architecture includes dynastic-era "tube

houses," pagodas, French colonial villas with appealingly crumbly façades, monumentalist socialist façades, and glossy new skyscrapers.

Vietnam is currently experiencing one of the most intense urban transitions in the world, with cities and towns projected to increase from one-third to one-half of the country's population within twenty-five years (L'Abbé 2010:5), and Hanoi is one of the centers of this phenomenon. Hanoi's population began growing substantially in the early 1990s, increasing at an annual rate of approximately 3 percent (L'Abbé 2010:6); today, the city population hovers around 6.5 million.[8] Urbanization, while increasing economic opportunities in cities, also concentrates some of the most challenging characteristics of post-reform Vietnamese society, including:

> (…) the rise in intra-urban disparities which is accompanied by an increasing polarization of income (…), rising unemployment rates, an increase in environmental pollution (…), crime rates, prostitution and corruption as well as the emergence of slum-like settlements as a consequence of the growing pressure to migrate from rural areas. [Waibel 2004:31]

Northern Vietnamese people often describe Hanoi as a place that offers quality of life and economic opportunities surpassing those available in surrounding rural provinces of North Vietnam. In fact, it supplies its residents a very contradictory mix of advantages and drawbacks, apportioned differentially: "On the one hand, [in Hanoi] average incomes are well above the national average. Most of the recent increases, however, are accruing to a small group of *nouveau riche*, with most of the capital's growing population, particularly the poor households, being left with expenditure levels which are very similar to those in rural areas" (Drakakis-Smith and Kilgour 2001:232). In the center of the city, businesses and residences are tightly crowded, with the density, noise, and kinetic energy of traffic, work, commerce, light industry, and the

[8] According to L'Abbé, this rapid growth mostly consisted of "rural migrants from surrounding provinces, with natural growth playing only a minor role in the population increase" (L'Abbé 2010:6).

activities of daily living all mixed together. Traffic is the main contributor to the municipality's air pollution levels, which exceed those of any other Southeast Asian city (Ngo Tho Hung 2010) and there is little green space to alleviate the physical and atmospheric impingement that pervades city streets, much formerly open land having been paved over (Drakakis-Smith and Kilgour 2001:227). City residents as well as local authorities struggle to manage the novel pressures of making a living in the city's densely populated, fast-moving neighborhoods.

If central Hanoi feels like a boom town, its outlying districts, even while classified as urban, have the desolate look and feel of poor rural areas.[9] In 2008, Hanoi expanded its borders to include semi-rural Hà Tây province, increasing the population from some 3.5 to 6.25 million – a policy intending to "create an economic superhub, rapidly modernising the country's capital and generating a metropolis more populous than Singapore or Kuala Lumpur, while rivalling Ho Chi Minh City" (Turner and Schoenberger 2012:1025). The farther outside downtown one travels, the more neighborhoods tend to feel drab, with fewer businesses and official buildings and less formal infrastructure and utilities. Horses and buffaloes drag carts on gravel roads, chickens browse through gutters, and narrow, dusty residential lanes open out onto farmland or stands of palm trees. Poor people in peripheral, recently urbanized city districts struggle with a "basic infrastructure of power, roads, water supply and drainage [that] is of poor quality"

[9] Over the last fifteen years, Hanoi has been rezoned to include more and more rural districts, which continue to be designated as such (*huyện*/rural district) even once they are included under the auspices of city administration. Part of Hanoi's population growth owes to this administrative expansion. A report by a regional agency provides some the details as such:

> Hanoi initially had four inner districts and four suburban districts. Then, the city had one more suburban district which is called Soc Son (a district split from Vinh Phuc province). In 1997, the city was expanded with three more districts, namely Cau Giay, Thanh Xuan and Tay Ho (these districts used to be parts of Tu Liem, Thanh Tri and Tu Liem districts). In 2003, Hanoi [came to include] two more districts, Hoang Mai (part of Thanh Tri district) and Long Bien (part of Gia Lam district). At present, the capital has nine inner districts: Hoan Kiem, Hai Ba Trung, Ba Dinh, Dong Da, Cau Giay, Thanh Xuan, Tay Ho, Hoang Mai and Long Bien; and five suburban districts: Dong Anh, Gia Lam, Thanh Tri, Soc Son and Tu Liem. [ACHR 2004]

(Vietnam Net 2009). As a result of reclassifying these formerly periurban areas as urban, the city's health and sanitation indicators have dropped; currently, only 38.5 percent of city residents have access to tap water (Vietnamnetbridge 2009). While faulty infrastructure affects most parts of Hanoi, poor people suffer the effects more seriously than richer families, who can avail themselves of alternatives to failing public services.

Given the demographic as well as ideological significance of urban poverty in post-transition Vietnam, as well as the standard epidemiological assumption that cholera and poverty are strongly associated[10], I originally determined that interviews with poor households in Hanoi would represent a significant part of my research on the cholera outbreaks in North Vietnam. I wanted to assess whether it was true that these families were at higher risk than other groups, and if so, to determine what particular risk factors might expose poor people to cholera. It struck me as important to understand how economic, environmental, and/or public health conditions in Vietnam had shifted to enable the return of a previously eradicated infectious disease.

Beyond these inquiries, which had not, to my knowledge, been carried out by other researchers, I wanted to use ethnographic interviewing to learn what poor people knew and understood about cholera, and whether and what methods they used to prevent disease. Without treating "poor people" as a category that could be naturalized or assumed, I nonetheless wished to understand more about what an alleged "disease of the poor" looked like from the vantage of poor people themselves. Finally, I also wanted to gather ethnographic information regarding the urban poor in Vietnam, a social group which is too frequently represented via stereotypes and quantification. Though part of this dissertation draws on documentary records and interviews

[10] For example, a document published by the World Health Organization in 2008 had stated that during the fall 2007 outbreaks in Hanoi, "The risk was higher in communities with poor sanitation and hygiene practices. The flooding had left rural and slum communities more vulnerable" (WHO 2008b:2).

with "experts" in health and other related fields in Vietnam, many of its most important points draw on what I learned from interviewing poor urban families.

Given that I was researching a question whose terms were partly biomedical, I sometimes felt pressured to construct a uniform, invariant data set drawn on identical questions being administered to a sample of households. In practice, this turned out to be impossible. Over the course of research, my original set of questions began to expand and admit room for issues that were more locally meaningful. As a result, the focus of conversations – and the focus of my research – included not only cholera, but other issues related to health and health-care-seeking; housing and environment; work and money and finances; family composition; histories of residence and relocation. Some questions were fixed, such as "How far away is the nearest health center?" and "How many square meters is your house?"; other questions arose organically from the context of individual stories.

Gathering information about these other areas of life was not simply for the sake of politeness: cholera epidemiology cannot be understood in isolation from society, as the historian Richard Evans demonstrated in his study of cholera in late 19th-century Hamburg (1987). Cholera's patterns are entangled with heterogeneous factors, including the political, economic, environmental, and social; in an epidemic, "the workings of state and society, the structures of social inequality, the variety of values and beliefs, the physical contours of everyday life … [are] all thrown into sharp and detailed relief" (Evans 1987:ix). Similarly, the medical historian Charles Rosenberg has characterized cholera as "a sampling device, a way of gaining access to particular configurations of demographic and economic circumstances, ideas, and institutional relationships" (1992:118).

As the following sections explain, poverty in Vietnam was once a nearly universal

phenomenon; today, while poverty is still prevalent, the projects of defining "poverty" and identifying "the poor" are contested, and the lack of consensus regarding these concepts posed substantial methodological challenges. As I will describe, these are consequences of larger-scale transformations in the national political economy and fundamental cultural assumptions about the significance of poverty. Identification of "poor" people and communities – which was, as I describe below, partially overdetermined by situation-specific challenges – shaped my determination of field sites. I will present these methodological considerations via a description of how poverty is measured, defined, and made significant in Vietnam.

Poverty in Vietnam

"Vietnam is poor, isn't it?": a characteristic opening to a conversation between a Vietnamese person and a foreigner meeting in an informal context. Made uncomfortable by the bluntness of this observation, I usually tried to backpedal as I responded. Over the course of dozens of these exchanges, I developed a short list of demurrals that seemed polite: how beautiful the country was, how rich its culture, how intelligent and hardworking its people. I would sometimes mention how the government's reforms had improved the standard of living for Vietnamese people, compared with the "old days" (*ngày xưa*). "Vietnam's economy is developing very fast," I pointed out.

While this claim was made partially in the interest of maintaining a mutually comfortable exchange, it was also substantiated by two decades of data. Since the early 1990s, Vietnam's national economy has been one of the fastest-growing in the region, and sometimes the world. This is thanks to a series of reforms that lifted Vietnam from imminent macroeconomic collapse in the 1980s to a diversified and increasingly globalized market economy. Vietnam, despite its

agricultural productivity, rich natural resources, and skilled labor force, has ranked among the poorest countries in the world through much of modern history. Since the mid-19th century, the nation's population has been confronted by a nearly continuous sequence of challenges: a colonial regime which enriched the French and Vietnamese elites at the expense of the peasantry, followed by two brutal wars which decimated the population, the economy, and the national agricultural base. War also limited the capacity of national industrial development over the course of the 20th century; the close of the Second Indochina War entailed political isolation and economic embargo. Economic mismanagement and the pursuit of counterproductive economic policies are widely cited as factors in preventing more robust economic growth during the socialist period (cf. Fforde and Paine 1987:2,4; Marr and White 1988:3).

By the 1980s, Vietnam was one of the poorest countries in the world (Glewwe 2004:1). In 1987, Vietnam's per capita income was estimated at US $198, rising to $200 in 1988 and 1989 (Banister 1993:6) – ranking it among the most absolutely poor countries in the world. During the "subsidy period" of postwar recovery (known as the *thời bao cấp*, 1975-1986), the joint effects of international embargo and internal devastation meant resource shortages, radically limited household consumption, and the virtual proscription on the accumulation of wealth or goods by private citizens.[11] My friends in their early 30s nostalgically recounted memories of commodity rationing during the "stamp regime" (*chế độ tem phiếu*): waking in the middle of the night to go wait in line in the dark early morning with mothers or siblings; exchanging state-issued coupons for a portion of rice or meat. A dreaded possibility of the period still persists in idiom: someone who appears to be suffering a horrible shock might be teased "You look like you lost the ration book" (*trong như mất sổ phiếu*). Commodity shortages

affected even the families of state workers in relatively elite positions during the 1980s. In a recently published volume on the subsidy period, one Hanoian man, who had been a "mid-ranking cadre" at the end of the 1980s, poignantly recollected how commodity shortages affected popular aspirations: "In that time, what did people dream of? A "Unification" bicycle. An "elephant ear" fan. A pair of plastic "Pioneer" sandals. An egg in a meal" (Thu Hà 2007:23).

When I asked a friend, the proprietor of a small café, about his memories of the subsidy period, he recalled that people were "miserable and thin." Data substantiate this memory: "Unofficial estimate [WB, 1999, UNDP, 2001] suggested that as much as 80 percent of the population was believed to live in poverty (by international standard) in the early 1980s" (Vu Quoc Huy 2004:2) and that in 1985, "almost 60 percent of all Vietnamese children under five suffered from stunting" (Koch and Nguyễn 2001:63). By the late 1980s, a number of northern provinces faced famine, and inflation was approaching 1000 percent per annum.

Faced with resource shortages, reductions in foreign aid, and the threat of famine, the Vietnamese Communist Party embarked on liberalization as a last ditch against incipient economic collapse. In 1986, the Sixth Party Congress initiated a series of economic and political reforms collectively titled *đổi mới* ("renovation"), revolutionizing the economy's structure and, ultimately, its performance.[12] *Đổi mới* decoupled socialist political and economic principles, permitting the development of a free market economy. Oriented towards liberalization and deregulation, its reforms legalized private ownership and entrepreneurship, decollectivized communal landholdings and state-owned property, allowed foreign trade and investment, and

[11] In rural Vietnam this was accomplished via agricultural collectivization, which "systematically prevent[ed] the peasants from investing their savings (…) in means of production (…)" (White 1988:144).

[12] Though a series of earlier reforms date to reunification in 1975 (Griffin 1998:2-3, 14-15), *đổi mới* officially began in 1986; further policies entailing "abolishing some central planning and subsidies" were brought to bear in 1989 (Banister 1993:5). By 1995, Vietnam's economy had rapidly increased export growth – mostly of agricultural

injected cash into an economy that was, during some parts of the postwar period, growing at an annual rate of only 0.4 percent (Malhotra 1999:14). Party leaders described the resulting hybrid political economic arrangements as a "market economy with socialist characteristics"; other observers have typified Vietnam as "transitional," "neoliberal," "market socialist," or "market Leninist" (London 2008).

The macroeconomic adjustments entailed by reform sent a jolt through Vietnam's stagnating postwar economy and caused rapid, comprehensive economic and social change. The agricultural, industrial, and service sectors all recorded remarkable growth in output; the latter two sectors came to dominate the national economy in the early 1990s, displacing the country's historic priority on agriculture (Griffin 1998:5). During the 1990s, the GDP grew at an average annual rate of between 7 and 8 percent, qualifying Vietnam's economy as the fourth fastest-developing in the world (Haughton 2001:9). The impact of *đổi mới* on Vietnam's national economy has been hailed as "exceptionally successful" (Griffin 1998:ix) and even "nothing short of amazing" (Glewwe 2004:vii). City vistas now feature the glossy facades of new shops, hotels, and businesses; where larger tracts of land are available, new residential apartment complexes (*khu đô thị mới*, "new urban areas") are being constructed at lightning speed. English language signage is common, as well as the brand names of foreign corporations.

Đổi mới has exerted a transformative influence on virtually every aspect of Vietnamese society and culture, from environment and urbanization (Drakakis-Smith and Kilgour 2001, Perrings 1998b) to gender relations (Long et al. 2000); from literature (Tuan Ngoc Nguyen 2004) to property (Price and Palis 1998, Sowerwine 2004, Sikor 2004); from trade to transportation (Truitt 2008); from urban planning (L'Abbé 2010) to popular religion (Taylor 2007). It has

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products, fish, coffee, and rice; crude petroleum, and garments – and increased the commitment of foreign direct

reshaped consumption, production, and everyday social relations. Craig's ethnography of household health knowledge and practices in the Red River Delta, with fieldwork conducted in 1994, catalogues some of the signs of the economic boom in its early years, when

> …the city was in its first flush of commodity capitalism: people were changing the dull greens and grays of military and worker clothing for brighter colors and sharper cuts; big, new, illuminated plastic signs hung on house and shop fronts; street barrows with primary colored plasticwares were being pushed in slow motion down the middle of the street (…) Neighbors might suddenly open a karaoke pub in their front room, or decide to add another floor or two to their house, beginning work unannounced at five o'clock in the morning with a sledgehammer on a shared wall. [Craig 2002:17]

New wealth generated by the market transition continues to manifest in the flood of motorbikes supplanting the calm traffic regime of yesteryear (Truitt 2008), in the astonishing range of types of commercial activity in the city, and in the burgeoning of globalized culture, with Korean pop music, international fast food chains, American movies in cinemas, and Christmas decorations appearing in December. The *đổi mới* economy causes social and economic arrangements in Hanoi that constantly struck me as weird: late-night construction sites staffed by skinny teenagers from the sticks; the rapid turnover of a city storefront from one type of business to another; the pronounced social differences between the dutiful "8X" generation born in the 1980s and the freewheeling, Yahoo-chat addicted, precarious "9X" generation born a decade later; the pervasiveness of imitation branded merchandise; the popularity of pyramid schemes and direct marketing ventures among some of my friends and acquaintances. It is visible in Vietnam's rehabilitation as a tourist destination, including the revamping of combat zones (cf. Kennedy and Williams 2001), in the increase of foreign direct investment, and in the concomitant frenzy for learning English; Russian and French are history. (One of Hanoi's many newly established language schools tells it straight with the slogan "Better English, Better Life.")

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investment to levels almost ten times above those recorded in 1988 (Khan 1998:27).

As these indications suggest, the standard of living in Vietnam is, for some, appreciating at unprecedented speed, presenting new opportunities for transnational contact and exchange; the improvement of life via technical means; the fashioning of middle-class distinction.[13]

Fed by the increasing prevalence of cash and commodities, these new institutions, technologies, and practices are standard fare for foreign appraisals of Vietnam's economic triumphs. Since the 1990s, donors, lenders, analysts, journalists, and scholars have routinely cited these phenomena in accounts of Vietnam's economic "success story." It was towards these developments that I was gesturing when I mentioned the country's economic progress to a motorbike taxi driver, but I was often mistaken in assuming that my interlocutor might take pride in being a citizen of an increasingly well-heeled nation-state. More than once, my demurrals brought forth a tirade of criticism of the conditions of life: of the government's corruption; its disregard of the interests of the poor; its failure even to maintain the scarred surface of the road we were traveling on. Motorbike taxi drivers in Vietnam are in a unique position to grasp the ironies of their nation's economic progress, and to critique its injustices. For the men who wait on street corners for hours at a stretch in Vietnamese cities and towns, supplementing the patchy, poorly capitalized public transportation system, Vietnam's economic reforms have coincided with flat or downward mobility, economic uncertainty, and the removal of social goods previously guaranteed by the state. Despite sometimes being constructed as plucky do-it-yourselfers, these workers are precarious: unskilled, informal, and self-employed (*tự do*, literally "independent").[14] Their situation exemplifies the contradictory freedoms of political economy

[13] For research on contemporary and historical middle-class cultural formations in Vietnam, see Nguyen-Marshall et al. 2012.

[14]Motorbike taxi drivers are often very young men or retirees, out of work or made redundant, chronically ill or injured. They are assumed to lack training and education or otherwise to represent the otherwise underemployed, non-competitive, or unemployable. As a result of their economic insecurity, motorbike taxi drivers are often framed

under *đổi mới* and they might be more likely than other Vietnamese people to agree that the framing of Vietnam's economy as a new Asian tiger is a mere "stylized image," and that market reform has represented "a new historic phase of economic and social devastation" (Chossudovsky 2003:169).

As I will discuss elsewhere, despite the many ways in which Vietnam resembles other globalizing low-income countries without a socialist legacy, many "socialist" institutions and modes of power remain influential. I do not conclude that Vietnam has become fully "post-socialist" or that it is now entirely "neoliberal." Indeed, I concur with the finding that the real-world instantiations of these ideal types are complex, and that in Vietnam, "socialist and neoliberal regimes and processes are neither totalizing nor distinct" (Schwenkel and Leshkowich 2012:380). Vietnam's political economic hybridity has expanded and complicated not only everyday life, but the kinds of sense that can be made of it. As the remarks of Mr. Thanh and other respondents suggest, such hybridity facilitates an expansion of the types of appeals that can be made to different forms of morality, authority and knowledge.

Đổi mới: Redefining Poverty, Fostering Inequity

ML	What was life like when you were small?
Bác Bảo	In the old days, it was happy. During "the subsidy," we really lacked, it was hard, but there was a warm, harmonious feeling of unity. (*Hồi bao cấp, đúng là thiếu thật, vất vả, nhưng lại ấm cúng đoàn kết.*)
ML	Can you compare the present to the old days?

by Vietnamese social scientists as a kind of proxy category for casualized male labor, or as representatives of the most "at-risk" urban economic classes. One Vietnamese anthropologist has recently used a cohort of urban motorbike taxi drivers as a source of qualitative data about HIV risk and its transmission via sex and intravenous drug use (see Nguyen et al. 2011). Foreign NGOs have recognized motorbike taxi drivers as an "at-risk" group in Vietnam for at least a decade.

Bác Bảo — I feel that this period isn't happy (*sướng*) like it was then. Now, the economy distinguishes very clearly. Poor and rich, you distinguish [between them] very clearly. If you're rich, you're happy; if you're poor then you're miserable. Life's hard now, strenuous. The country rises by the economy, but it's very hard for poor people. You could say it's hard to rise up (*Có thể nói là khó ngóc lên).* – Lê Văn Bảo, 62 years old, male, Hoàn Kiếm ward, Hàng Bông district, 16 August 2010.

Much is made of the "pro-poor" characteristics of the *đổi mới* reforms, and poverty reduction is frequently upheld as a measure of the success of Vietnam's economic liberalization. Remarkably, Vietnam's national rate of absolute poverty[15] fell from 86 percent to 75 percent between 1993 and 1998; over the same period, the incidence of household food poverty fell from 55 percent to 37 percent (Haughton, J. 2001:13). In a more recently published assessment, the WHO reported that the nationwide poverty rate had "decreased from two-thirds to one-third in the last decade, a faster rate than other countries at a similar level of development, but with considerable variation across regions" (2006:373).

If poverty is measured by consumption of commodities, Vietnam's post-reform economic progress looks especially favorable. More than ever before, it is possible for Vietnamese people to consume and accumulate, both because private enterprise and private property are permitted, and because the supply of cash and commodities currently available in Vietnam far outstrips that of prior decades.[16] The 1976 promise by Party Secretary Lê Duẩn that each Vietnamese family

[15] As measured by the Vietnam Living Standards Survey (VLSS) and Vietnam Household Living Standards Survey (VHLSS). Official poverty rates in Vietnam are not based on these living standards surveys; however, "Molisa [the Ministry of Labor, Invalids and Social Affairs] has come under increasing criticism from various parts of the government for its approach to poverty measurement, and the VHLSS approach is finding gradual acceptance as a more reliable method among planners and policy makers at the national level" (Swinkels and Turk 2007:269). Elsewhere in this chapter I provide further discussion of the implications of practical and political challenges to measuring poverty in Vietnam.

[16] Anecdotal data from literature and oral history of the postwar period testify to the dearth of consumer goods. More empirically and at a national scale, Fforde and Paine reproduce data from a Vietnamese statistical publication

would have "a radio set, refrigerator, and TV set" within ten years (Marr and White 1988:1) has probably never been closer to coming true: "[C]onsumption, or expenditures, poverty has declined over the 1990s for both urban and rural populations, whether measured by headcount or as depth of poverty" (World Bank 2003: iii). Defining "poverty" in a Hanoi study as "lacking a television in the home," a survey team spent a day canvassing neighborhoods in 1991 before they found a single "poor" household (Pamela Wright, personal communication, November 2009).[17] In this way, market reform has evidently made certain progress in eliminating poverty, which is no longer a nearly universal phenomenon, and the nascent middle class enjoys unprecedented opportunities to consume conspicuously. The middle-class and upper-middle-class homes I visited in Hanoi simply stunned me with their polished marble surfaces, elaborate fish tanks, multiple automobiles, and European-style lighting and air conditioning.

The increasing prevalence of capitalist metrics of household wealth and poverty (i.e. cash and commodities) exemplifies shifts in the way poverty is understood and defined in Vietnam. While both state and foreign agencies continue to identify issues related to poverty and inequality central to Vietnam's strategy in social and economic development (World Bank 2011:ii), the meaning of "poverty" in state discourse has changed. During the socialist period in Vietnam, poverty was explained as a consequence of economic exploitation; household-level poverty as well as national poverty was represented as a consequence of global capitalism, imperialism, and war. Popularly, this understanding of poverty was ideologically aligned with a traditional Vietnamese understanding of poverty, held over from the dynastic period, which

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entitled "The Economic and Cultural Deelopment of Socialist North Vietnam 1960-1975." Its table of "Principal ('Planned') Products at the Time of the First Five Year Plan (1961-1965)" provides a complete overview of the country's interwar productive capacity. The simplicity of this inventory ("Roof Tiles, Concrete, Untreated wood…Cloth of all types, Silk of all types, Netting/gauze…Leather shoes, Cloth shoes, Sleeping mats, Gloves; Porcelain bowls, plates, teapots and cups; Potatoes and manioc flour…") is a testament to the austere scope of domestically produced commodities available to Vietnamese consumers (Fforde and Paine 1987:134-135).

attributed poverty not to individuals, but to the failures of leaders to guarantee a minimum standard of living for all.

In post-transition Vietnam, the moral significance of poverty has shifted. Though socialism still prevails as the official organizing logic of the state, the presence of the poor no is no longer assumed to signify exploitation; the Vietnamese state's definition of poverty has begun to shift away from a Marxist perspective. Poverty has come to be redefined as a principally social problem which affects only some groups and requires technical solutions. This model tacitly implicates the unfitness of the poor for competition and production: the poor, exceptional for their failure to advance in a context of overall economic growth, are presumed to have inherent deficits. Poverty is addressed by the promotion of economic development and "modernization," and by the administration of forms of targeted state relief.

As a result, characterizations of "the poor," whether circulated in media, Vietnamese state reports, or in the discourse of international NGOs, are typically limited to providing statistical accounts of the prevalence of economic poverty and to enumerating select demographic characteristics of poor regions, households, and individuals. Policy statements on poverty reduction often underscore, to the point of reification, the vulnerability and disadvantage of social groups who are overrepresented among the poor, and the characteristics of poor Vietnamese social groups appear as lists of static attributes: rural, ethnic minority, uneducated, young, and female. In official accounts as well as in media reports, the poor are often figured as culturally and behaviorally deficient, given to spending money on religious or "superstitious" traditions, more likely to use alcohol or drugs, and to engage in criminalized behavior. The below passage provides a typically circular analysis of poverty in Vietnam:

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[17] In post-reform Vietnam, television has become "pervasive in everyone's life" (Long et al. 2000:101).

> The chronically hungry people are often those from ethnic minority groups living in remote and mountainous areas; inhabitants living in low lying coastal areas, migrants in big cities, landless farmers, and the hereditary poor who fail to secure household food security and sufficient nutrition. (…) Women in these households have little time or capacity to participate in social development activities of the women's union. Though women have the right to participate in development and social activities under the current constitution,[18] they are always too busy making a living and overburdened with housework. [ActionAid 2004:8-9]

Such decontextualized, technocratic recitations of the qualities of poor people approach the "culture of poverty" (Lewis 1959) in their oversimplification of the causes of poverty, erasing the experiences and perspectives of individuals and families, minimizing their agency, and neglecting the role of structural forces in creating and perpetuating inequity. They fail to examine local, national, and global factors that contribute to increasing living costs and the reduced opportunities for earning, and they rarely delineate processual or relational correspondences between "poor" classes and the society which produces them – a significant oversight, given how rapidly class stratification has become a fact of life in post-transition Vietnam. This is an example of how "poverty research plays a role in depoliticizing what are in essence political problems" (Harriss 2007:i). Characterizations of poverty that focus on the deficits of the poor overlook the important role *đổi mới* has played in creating inequity. Vietnam's aggregate national economic increase has been widely celebrated by the international community – but this growth has obscured the losses that some regions, economic classes, and social groups have suffered, and covers over a sharp rise in economic inequality (Volkmann 2006).

Data on the relative equity of economic distribution across social groups clearly demonstrate this trend. In the years following the institutionalization of market reform,

[18] Accounts such as this toe the line between blaming market reform for the situation that poor households face and subtly exonerating the Vietnamese Communist Party for these difficulties. Notably, this passage emphasizes the

econometric data have continued to signal the rise of inequality and stratification. From 1993 to 1998, the Gini coefficient of inequality rose from 0.330 to 0.354 (Vietnam: GSO 2000:248), achieving a "low-to-moderate degree of inequality" (Haughton, J. 2001:15). By 2002, the UNDP was alarmed by the finding that the Gini coefficient had risen from 0.350 in 1995 to 0.410 just seven years (Tran Dinh Thanh Lam 2002).[19]

> With this deepening inequality in the post-reform era, researchers are becoming increasingly aware of the consequential link between socio-economic inequality and social class divisions—a phenomenon often referred to in Vietnamese discourse as 'social stratification' (*phan tang xa hoi*). Social stratification in post-reform Vietnam is expressed in terms of differences in income, wealth, and consumption among social groups, but also in terms of differences in social, cultural and political capital (Trinh Duy Luan, 2000; Koh, 2004; Kim, 2004). In other words, the former relative egalitarianism of Vietnamese society has been undermined in post-*doi moi* period. [King et al. 2008:792]

As the next section describes, the economic definitions of poverty that are used to generate national poverty lines and poverty rates reify a neoliberal definition of poverty as simply the shortage of money. Cash-based poverty indices fail to accurately represent the true prevalence of poverty in Vietnam, and therefore make market reform appear to have accomplished the state's goals for poverty reduction. At local levels, however, cash-based poverty lines are not always followed, and officials use even less generalizable systems for determining which households are most in need of assistance. Household interviews revealed the contradictions inherent in poverty determinations, and some respondents' remarks expressed the degree to which definitions of "poverty" in contemporary Vietnam – whether they are oriented towards the

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efforts of the Party towards improving the life for economically and otherwise marginalized groups.

[19] Even assessments that do not consider this change in Vietnam's Gini index as significant recognize other signs of growing inequality, and acknowledge the limited potential of economic growth alone to alleviate poverty: "Standard inequality indicators, such as the Gini index, have remained relatively stable. But a closer look at the gap between the richest and the poorest quintiles of the population, especially when taking into account the increasing underreporting of expenditures as the country grows wealthier, shows a sustained increase in inequality. Integration with the world economy has also been associated with a bigger gap inearnings between the skilled and the unskilled. …The poverty alleviation impact of economic growth is smaller when inequality increases, and Vietnam is bound to

econometric or the moral, and applied from the top down or the bottom up – remain nebulous and shifting.

Poverty in Hanoi

Poverty in Vietnam has been represented as a problem primarily concentrated in rural areas, but in recent years, it has increasingly been recognized as a "pressing problem" in Hanoi, Hồ Chí Minh City, and Hải Phòng (King et al. 2008:792). Global economic crisis has added to the precarious situation of rural and urban poor populations who have become increasingly vulnerable to economic risks and shocks following Vietnam's accession to the World Trade Organization and the increasing exposure of the national economy to global markets (Oxfam/ActionAid 2008:9). However, urban poverty in and surrounding Hanoi is still poorly understood, and its spatial distribution has received only limited study (Gubry et al. 2009).[20] Though national poverty maps show the Red River Delta region as wealthier than other parts of the country, with only 29 per cent of the population considered poor according to the 1998 Vietnam Household Living Standards Survey (VHLSS),[21] the region also contains areas of where poverty is more highly concentrated (Wells 2005). And though the total headcount of

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see slower gains in poverty reduction over the next few years." (Asian Development Bank et al. 2003:134)

[20] Urban poverty is believed to be increasingly prevalent and sociologically complex in the post-*đổi mới* period, but the literature still reflects limitations (Vu Quoc Huy 2004). Despite the increasing acknowledgment of urban poverty and disparity in the poverty literature on Vietnam, the experience of the urban poor is documented by only relatively scanty demographic data (Nguyen Xuan Mai 2006:169); ethnographic studies are still limited. A recent study by anthropologist Hy Văn Lương (2009) addresses poverty and urbanization in Hồ Chí Minh City; no study of equivalent scope has been published on another major Vietnamese city. Given the increasing degree of urbanization in Vietnam and Southeast Asia generally, questions related to urban poverty and urban living conditions, especially as they impact health, demand interdisciplinary inquiry. Given the profusion of nongovernmental reports on related topics by analysts with limited linguistic capacity and limited experience in Vietnam, the literature on urban poverty is in need of critical perspectives and immersive research methods.

[21] By comparison, Lai Chau, the poorest province in Vietnam, recorded over three-quarters of the population living below the poverty line; two other provinces in the Northern Uplands recorded poverty headcounts over 70 percent, Ha Giang and Son La; Cao Bang, Lao Cai, Lang Son, and Bac Kan had headcounts between 60 and 68 percent. [Centre for International Economics 2002:15]

poor urban residents is officially lower than that in rural areas, urban economic inequality is higher, and a World Bank report suggested that access to services is deteriorating for the urban poor: "Intra-urban inequality [in Vietnam] is also evident from much of the data on access to basic services and on status across housing, land tenure, water and sanitation, and transport" (World Bank 2003:iii).

As a result of the uneven economic patterns currently shaping post-reform Vietnam, some portion of the rural population routinely travels to work in Hanoi and other large cities. They contribute to the capital's economic dynamism as well as to its socioeconomic diversity (ADB et al. 2003:xiii), but due to the state's approach to poverty counting, these rural-to-urban migrants are not counted among the city's poor population. The percentage of poor urban groups who have rural origins is unknown but believed to be substantial. While NGOs concerned with poverty reduction are attempting to improve their understanding of the rural-to-urban migrant population and its uniquely vulnerable position, displaced rural poverty only makes up part of Hanoi's poor population. Many poor urban families are long-established permanent residents, and their experiences reflect challenges to economic stability and security that are uniquely associated with non-migratory urban life. Of my 118 respondents, only nine identified themselves as belonging to a residential category other than that of registered permanent resident.

Literature on cholera epidemics elsewhere in the world typically associate cholera epidemiology with poverty; in Vietnam during the 2007-2010 outbreaks, poor households were anecdotally more heavily affected by the disease. I intended to design research methods that would allow me to interview a group of mostly poor urban households, and to ask not only how cholera had affected them – if at all – but also how they accessed and used health information

and resources, what their experiences with and knowledge about cholera included, and how poverty affected family health in other ways.

As it turned out, attempting to solve the problem of limited cholera prevalence by approaching poor populations entailed another problem around data sufficiency. Selecting representative city districts as field sites was complicated from the outset by a lack of publicly available data collected at the level of the district or the ward. The absence of spatially disaggregated data on the prevalence of urban poverty – an artifact of the General Statistics Office's approach to sampling – made it challenging to determine where concentrations of poverty are located.[22] This lack, combined with the political sensitivity of information surrounding the geographic dispersal of cholera throughout Hanoi, complicated the project of nominating field sites for conducting interviews with households. The following section presents some of the factors that challenge research on poverty and related social issues in Vietnam. I discuss these in detail because they are not strictly methodological problems: they also afford insight into other anthropological objects, including the shifting meanings of poverty in post-transition Vietnam, the multiple standards for its measurement, and the political restrictions on certain types of information.

Defining Poverty: Who Qualifies?

The question "What is poverty?" receives lengthy analysis in Vietnam, both in white papers on poverty reduction and in everyday life. However, defining poverty – "a relative and notoriously imprecise concept" (Pincus and Sender 2008:108) – is a challenging task in Vietnam,

[22] The GSO does not currently sample enough households at the level of the urban or rural ward (*phường/xã*) to produce geographically disaggregated data sets, and other publications about patterns of poverty in Hanoi are typically cursory.

given the context of decreasing state control over the economy and the population, rapid social stratification, and the population's increasing geographic as well as socioeconomic mobility. The definition of poverty is not a merely academic question: it is increasingly imperative for Vietnam to target its poverty reduction initiatives, especially given that by 2001, national economic development was accomplishing diminishing returns in alleviating poverty (Haughton, J. 2001:14). Future poverty reduction is likely to be compromised both by increasing inequity in Vietnamese society (Haughton, J. 2001:36) and by imprecise data regarding the distribution of poverty impeding the development of accurately targeted poverty reduction programs (cf. ADB et al. 2003:v,1). However, despite the concern with "new" poverty, the capacity of the Vietnamese state to define and measure poverty is limited and the project of actually identifying and enumerating the poor takes place at local levels. The projects of defining poverty, quantifying the poor, implementing poverty reduction programs, and administering benefits to the poor are challenged by methodological complications in both national policy and local practice.

When I began fieldwork, I was not aware of the nuances surrounding the notion of "poverty," not recognizing that this designation was provisional if uttered by someone unofficial. An early conversation about research methods with a Vietnamese university colleague helped to open up the significance of claims to poverty made by individuals in "the field." The professor had been asking me how I planned to measure poverty, and seemed uncomfortable that I might take the words of householders at face value. "If you go into a village to interview people, you mustn't ask 'Are you poor?' because," she noted, "the people will all say 'Yes.' You have to ask if they have been officially designated by the ward as belonging to a poor household."

At the time of this conversation, I felt this remark conveyed an attitude that was both

contemptuous of poor people and unpleasantly in favor of the bureaucratic proceduralism of the state. However, as I later came to understand, my colleague's remark also underscored the struggle to control definitions of poverty in Vietnam. Her emphasis on the distinction between self-reported and officially designated poverty established the tension surrounding the authority of different agents to make a declaration of poverty. Specifically, to be an officially poor household of one's ward (*hộ gia đình nghèo của phường/xã*) is an administrative status that is determined by local officials and community members using a combination of nationally established and locally determined criteria. Accordingly, for a person to say they are "poor" in Vietnam does not necessarily mean that the state recognizes them as such. In the absence of the state's recognition of a household's condition, its members are not entitled to financial support from the state.

In everyday life, by contrast, I frequently found myself in conversations with Hanoians who casually imparted some rules of thumb for distringuishing more and less wealthy individuals based on their appearance and behavior. Some examples, shared with me by friends, colleagues, and acquaintances: Anyone sitting in a café during the day is not poor. Anyone who has come to town from an outside province is probably poor and working to send money back home – but, of course, some migrants are rich. Business owners are rich. Members of ethnic minority groups are poor. Foreigners are rich. Anyone who pronounces "N" as "L" and vice versa (*nói ngọng*) is déclassé by virtue of their provincial associations, and possibly poor. Anyone thin and dark-skinned (*đen*) appears poor, given that poor people often work outdoors. Anyone fat is rich. Et cetera.

Such emic understandings of poverty provide a socially and culturally grounded assessment of the markers of poverty – which, though not necessarily more accurate than other

forms of measurement, speak to poverty as it is locally lived and imagined. As such, they also shed light on how class stratification is emerging in post-transition Vietnam. Popular rules of thumb for distinguishing poverty from wealth, which rely on appearance, embodiment, identity, and comportment as proxy indices, illuminate the degree to which economic reform has introduced class differentiation in a society where just a few decades ago, virtually everyone was poor. As demographer John Bryant points out, socioeconomic stratification in Vietnam has increasingly tended towards material expression:

> One final effect of market reform on mobility strategies is the new scope that it has provided for status enhancement through conspicuous consumption. Now that reforms have legalized accumulation of wealth and many of the means for doing so, families are free to build elaborate houses, wear expensive jewelry, or spend a year's income or more on a child's wedding. Since 1989, high-quality imported consumer goods have been widely available, enabling those with sufficient income to purchase motorbikes, soft drinks, and stereos. [Bryant 1998:262-3]

While some of these outward manifestations of altered socioeconomic status are novel, traditional notions of poverty, recognizing the multiple dimensions of low-resource status, continue to be culturally meaningful. As Fforde points out, ideas concerning poverty in Vietnam have not historically been strictly socioeconomic; for example, "the hunger and cold faced by the poor was an inescapable aspect of their situation, marked in the language by the phrase 'warm and full' (am no) as a term for well-being…The perceptions of the people themselves have encompassed many more elements than that of income alone" (Fforde 2003:7). In contemporary Vietnam, the new dimension of poverty is its constitutive relationship to socioeconomic inequity and stratification. Class differences now unapologetically saturate Vietnam's formerly (ostensibly) classless society; as a female security guard at a motorbike parking lot once remarked to me bitterly from her place towards the bottom of the socioeconomic heap, "Vietnamese people discriminate (*phân biệt*) a lot."

This dimension of poverty is minimized by the use of income to define and measure poverty, which reduces the visibility of poverty's social, affective, embodied, relational, and processual qualities. This is continuous with poverty research and administration in many parts of the world; as Harriss suggests, poverty researchers have "generally failed to address the dynamic, structural and relational factors that give rise to poverty" (Harriss 2007). However, certain failings in the project of defining poverty are, for the Vietnamese state, relatively new. The use of income to measure poverty, as Fforde suggests, dates to Vietnam's period of decollectivization and marketization (Fforde 2003:8). While not all data on poverty in Vietnam are generated exclusively by income-based standards, the main indices, developed by the Government Statistical Office (GSO) and the Ministry of Labor, Invalids, and Social Affairs (MOLISA), do rely on household income.[23] While some aid agencies rely on VHLSS data to calculate the prevalence of poverty, the Government of Vietnam typically relies on poverty data generated by MOLISA (Swinkels and Turk 2007:262).

Using income as the most important index for measuring poverty is not a neutral methodology, and creates problems that are both particular to the Vietnamese context and generalizable to other national contexts. Measurements of poverty that privilege money as the primary or sole standard for assessing quality of life may fail to represent actual living standards, given that data on household income and expenditure are challenging to confirm. For example,

[23] The GSO uses expenditure poverty lines that draw on World Bank standards for developing countries to develop a food poverty line as well as a general poverty line to calculate the poverty rate for Vietnam, using Vietnam Household Living Standard Survey (VHLSS) data, which sample data on the population's standard of living every two years (Phung Duc Tung 2004:1). MOLISA is establishing an income-based economic poverty line and annually calculating the poverty rate (Phung Duc Tung 2004:1).
In Vietnam, the poverty line is sometimes altered to reflect changing economic conditions, such as inflation and the disparity in prices between urban and rural regions. Most recently, the Government of Vietnam increased the poverty line in 2009, such that "people with a monthly average income under 500,000 dong in urban areas and under 330,000 dong in rural areas are considered poor (according to Decision No. 1592/QD-UB of Hanoi's People's Committee dated 04/07/2009)." (ActionAid 2009:22).

if a household's income fluctuates seasonally, as do the incomes of many rural households, measurements at certain times of the year may appear artificially high or low and incommensurate with their actual standard of living. Too, given the challenge of independent verification of household finances, and the difficulty of recalling and/or recording sums of money spent over a long period of time, financial measurements are prone to error. The poverty line approach to defining poverty, combined with problems in the state's design and implementation of poverty measurement methods, compromise the reliability of official poverty data in Vietnam. In light of the lack of resolution between competing national poverty indices, the reliance on problematic criteria to make determinations of poverty, inadequate sampling in urban areas, and the nearly comprehensive failure to capture rural-to-urban migrants, Pincus and Sender argue that

> (…) surveys to count the poor in Vietnam exclude a very large and important group of poor people, many of whom are women. As a result, the analysis of poverty and equity in Vietnam, as well as policy debate, is wide open to "unscientific" or propagandistic interpretation. [Pincus and Sender 2008:108]

Further, strictly economic measurements of poverty fail to capture the social dimensions of poverty, overlooking how a household's weak finances are interdigitated with environmental, occupational, educational, health-related and other life circumstances. They fail to account for the other specific forms of misery, frustration, and vulnerability that are an outcome of forms of political and economic marginalization. Defining poverty as merely not having money serves to naturalize the category of poverty and press for economic solutions to remediate the situation of poor people and communities (cf. Harriss 2007). This introduces biases, displaces or erases other potentially significant metrics of poverty, and creates a misleading impression of objectivity. As Sender and Pincus have suggested, it is ultimately more accurate to measure

poverty by using "concrete measures of human well-being such as child mortality, stunting in children (…), school attendance, ownership of durable goods, and the condition of housing" (2008:109).[24] However, these outward indicators of poverty do not address poverty as an experience of oppression, marginalization, or powerlessness.

To add nuance to the assessment of poverty and quality of life, the Vietnamese Living Standards Survey/Vietnamese Household Living Standards Survey (VLSS/VHLSS), administered nationally in 1993 and 1998, used household assets as proxy measurements for poverty, relying mostly on indicators such as the possession of electricity, a radio, a television[25], a motorcycle, piped drinking water, and several dozen other commodities (Wagstaff and Nguyen 2002:8*n*). While an inventory of household possessions productively complicates purely econometric approaches to defining poverty, this approach is not without its challenges, and in some respects barely rates above a straightforward accounting of family finances. As I found in fieldwork, counting durable goods can be an indeterminate affair. Does having a broken television count having a television?[26] Does loaning or sharing a bicycle count as having a bicycle? If so, a family with a broken television and the use of a neighbor's bicycle potentially registers as equivalent to the owners of a functional TV and a new bicycle.

Though they might be methodologically preferable, VHLSS data have not informed

[24] Non-governmental agencies often recognize the limitations of using quantitative data as the gold standard for defining poverty and documenting its prevalence, and suggest for the inclusion of other metrics in poverty assessments, such as environment, social capital, education, and even the affective experiences of shame, humiliation, marginalization (cf. Asian Development Bank et al. 2003:7). Even if capacity existed, however, to treat poverty as a multivariable phenomenon, to quantify other variables and their impact on the lives of the poor, the lack of critical analysis would hamper the intention to clarify and complicate the definition of poverty.

[25] "Television ownership is one of the strongest predictors of per capita expenditure – a statistically significant predictor in both urban and rural areas… Indeed, radio and television ownership index dominates all other targeting variables" (Minot and Baulch 2004:240, 255).

[26] As one family noted in response to the inventory of durable goods in my questionnaire, "There's the TV there, but we still don't have money to fix it. It flickers, jumps. We don't even have enough to eat, not enough to eat each meal, where's the money to fix it?" – Đỗ Thị Yên, 55 years old, Hoàng Mai district, Đại Kim ward, 1 March 2010.

official government poverty estimates until very recently. More simply, "poverty estimates were based on nationwide annual counting exercises, whereby the number of poor people was counted by Molisa officials in each commune and ward across the country, and lists with the names of the poor were drawn up" (Swinkels and Turk 2007:262). Though this appears to be a reasonable compromise, whose methods are consistent with an accurate account of the total number of poor households, discussion elsewhere suggests that these provincial poverty headcounts are shaped by irregularities introduced at higher administrative levels. Instead of using the poverty line and a household income questionnaire to confirm poverty, localities, to which enumeration responsibilities are theoretically devolved, produce poverty statistics to conform to poverty reduction targets for the given year. The enumeration of poor families is determined according to methods that are geared not towards straightforward quantification, but to supply responses to pre-determined policy problems (Swinkels and Turk 2007:262-3).

This sheds light on the operation of governmentality in a society which, while economically capitalist, has retained many of the socialist state's characteristic powers, including the power to administer the activities of communities and households. Despite the laissez-faire manner in which accumulation and class stratification are proceeding in Vietnam, the state has maintained its prerogative to surveille residence arrangements, income, and other indicators of a family's status. That is, despite its tendency to encourage deregulation elsewhere in society, the post-*đổi mới* state has held onto relatively intrusive, paternalistic powers to administer statuses and benefits to the members of all households, especially those designated poor.

But as the procedural irregularities in this process demonstrate, assigning this designation takes place at the grassroots level and in a fashion that can appear *ad hoc*. Local authorities define poverty in relative rather than absolute terms and make determinations based on locally

meaningful criteria, drawing on knowledge regarding a given family's circumstances. Accordingly, one woman, when I asked if her family belonged to the list of the "officially poor," responded "No … they don't come and check at all. I'm the poorest but they don't check and they don't give anything" (Nguyễn Bình Thủy, female, 42 years old, Hoàng Mai district, Yên Sở ward, March 12, 2010). In the experience of poor families, as I describe below, these ambiguities in the process of poverty determination can open up processes of contestation and appeal.

Given these challenges to assessing poverty's prevalence and its causes accurately, and the stereotyped representations of poor people in Vietnam, the category of "the poor" is more ideological than it is empirical. Currently, the category is shaped by the imperative to create the appearance of poverty reduction. If poverty was reckoned according to other metrics, many more Vietnamese people could potentially be included in the category of official poverty. In the present situation, the category of "officially" poor Vietnamese households clearly does not include all poor households, and those which are included are not necessarily the poorest. At the same time, it was also "officially" poor individuals who were most available to me as interview respondents, given the practical, ethical, and permissions-related challenges to interviewing migrant workers and other poor individuals not officially recognized by the state. State strictures as well as social sanctions against unpermissioned foreign researchers prevented me from gathering data that might have represented more accurately the conditions of poverty and vulnerability that unregistered city residents and informal sector workers face. Nonetheless, because I was not the sole author of my research protocols, but required the cooperation and proxy decision-making of others, there were almost no rural-to-urban migrants in my study, and some of the households I interviewed, despite being very low-resource, were not "officially"

poor.

Selecting Research Sites

Despite the apparently totalizing capture of ward-level household poverty data to support the allocation of benefits, data or maps regarding the spatial distribution of interurban poverty at the level of the city district or ward in Hanoi are not publicly available, as I learned in an uncomfortable meeting at the General Statistical Office. As I was told, the only poverty data that can be accessed by researchers are census data; while other data sets are available for purchase, these offer relatively little benefit, as the Vietnamese census sampling strategy does not include sufficient data from individual urban wards to generate a representative poverty map in Hanoi. No other state agency or research study captured substantial data on the material shortages and other challenges facing many "poor" urban Vietnamese families.

It slowly occurred to me that the lack of straightforward opportunities for profit from statistical knowledge about "poor urban households" had created a lack of demand for information regarding this group of people. As Melissa Pashigian (2012) points out in her study of infertility treatment in contemporary Vietnam, the new profitability of the category "childless women" in Vietnam has visibilized this state of being and motivated the development of statistical knowledge about this class of person. The category of urban poverty has received limited statistical attention from the state, such that urban poverty maps are scanty, data are nongeneralizable, poverty adjudication and relief is devolved to the lowest levels. This biopolitical orientation towards demographic data in Vietnam represents a shift from the prior socialist iteration towards the population. While the socialist style of technocratic governance also approached the population as a resource for producing economic value, its investment in

representing the population did not reflect quite the same sensitivity to market forces. Under Vietnam's new regime of globalized capitalism, the perceived profitability of certain kinds of information is a factor which helps generate investment into the visibility of demographic groups, while other bodies – which either cannot be made to realize profit or which threaten to incur economic losses – are less likely to be represented and known via the accumulation of projects, policies, and statistics. For example, mental health is not a strongly disciplinarized institution in Vietnam; as a result, state statistics on mental illness only count cases of schizophrenia and epilepsy. By contrast, HIV/AIDS has represented, among other things, a source of enormous bilateral aid to Vietnam, including the only PEPFAR funding allocated in Southeast Asia. State policies, interventions, and statistics regarding HIV/AIDS in Vietnam abound, despite its association with prostitution and drug use, practices formerly called "social evils" (*tệ nạn xã hội*). Whereas the socialist regime was also prone to covering up certain kinds of unflattering information while selectively promoting information regarding other social problems, the ligature between profitability and knowledge in the post-transition period is novel.

Recognizing these challenges to sourcing urban poverty data, I gave up on representative nominations of interview sites in Hanoi, and instead drew on available data to compare the relative poverty of urban districts. As a result, the sites where I conducted interviewing are not intended to be statistically representative of the city or of its populations, but to give a broad sense of conditions of poverty in urban districts of Hanoi. Interviewing proceeded as a series of case studies of four city districts, with households selected from urban wards in each district. I selected districts by using tuberculosis incidence data, which I used as a proxy for poverty.[27] Whereas spatially disaggregated cholera epidemiology data were so closely guarded as to be

nearly impossible to procure from any office – local, national or international – I readily sourced annual tuberculosis incidence data broken down to the level of the city ward (*phường*). While it is difficult to say exactly why this disparity exists between data sets reporting the epidemiology of different infectious diseases, I speculate that this may be partially ideologically motivated: tuberculosis is associated with a version of poverty that is more palatable and in keeping with the Vietnamese state's self-image than cholera.

I selected four city districts (*quận*), Hai Bà Trưng, Đống Đa, Hoàng Mai, and Long Biên. Per the tuberculosis data, these districts represented a range of poverty rankings, from the second richest quintile (Đống Đa) to the poorest (Hoàn Kiếm and Long Biên). From February 2010-July 2010, I carried out interviewing and data collection in the four urban districts described below, interviewing five families per ward in six wards per district, for a total of 118 completed household interviews.[28] The district health authorities in Đống Đa district denied permission to interview, and so I substituted Hoàn Kiếm district. By that time, I had accessed a poverty study that indicated Hoàn Kiếm district, rather than being among the city's poorest (as per the tuberculosis data), might ranked among its wealthiest. Despite the difficulty in assessing the meaning of these district poverty rankings, the sample of districts, according to some metrics, might appear representative of richer and poorer city neighborhoods.[29]

I also interviewed a small number of health workers at health centers, but these occurred more opportunistically, given the irregular availability of staff with free time for a meeting. Not including health workers, the sample was comprised of 32 men and 86 women, aged 29 to 92,

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[27] For more details on this process, see Appendix 2: "Using Tuberculosis Rates in Hanoi to Locate Urban Poverty" and Appendix 3: "Assessing the Reliability of Tuberculosis Data as a Proxy Measurement for Urban Poverty."

[28] This figure does not include family members who participated in the conversation alongside the primary respondent. One appointment in Hoàng Mai district, Định Công ward was missed; there was also one refusal in Long Biên district, Ngọc Thụy ward, and therefore my total sample fell short of 120.

with a mean age of 53 and a median age of 51.[30] Six of my respondents (5 percent) belonged to the KT2 residence registration category ("Permanent resident living in this ward, but first registered in another ward of the city *or* Permanent resident living in another ward of the city but first registered in this ward"), two (1.7 percent) were KT3 ("Long-term temporary resident, intending to remain"), and one (0.8 percent) was KT4 ("Short-term temporary resident, intending to leave"); the remaining 109 (92.5 percent) were KT1 ("Permanent resident living and registered in this ward") (Gubry et al. 2010).

Given that I conducted interviews in the daytime, during the hours of work and school, I spoke with many unemployed, self-employed, or retired individuals, men and women working from home, and, occasionally with individuals who were physically disabled. In a few cases, we interviewed men and women as they worked; a woman left a neighbor to mind her shop at the front of the house while we chatted, and one man insisted that we interview him as he minded his streetside tea stand; mothers and grandmothers frequently cared for babies and children while we spoke.

I was always accompanied by one of my several research assistants, who were all female and in their early twenties. Interviews were tape-recorded and transcribed, with seven respondents refusing permission to record. For details of the districts where I conducted interviews, see Appendix 1.

[29] For more detail, see Appendices 1 and 2.

District	Wards
Hoàng Mai	Định Công, Đại Kim, Thịnh Liệt, Mai Đông, Tương Mai, Yến Sở
Hai Bà Trưng	Đông Mác, Bạch Mai, Bách Khoa, Phố Huế, Quỳnh Mai, Đồng Nhân
Long Biên	Bồ Đề, Gia Thụy, Đức Giang, Ngọc Lâm, Ngọc Thụy, Sài Đồng
Hoàn Kiếm	Hàng Bông, Chương Dương, Hàng Bạc, Hàng Bồ, Hàng Gai, Hàng Buồm

Table 1: Urban districts and wards surveyed, February-July 2010.

[30] This is not a population that could be considered perfectly representative of Vietnam's general population, given the discrepancy between the average age of this sample and the nation's very young population. The median age of the Vietnamese population is 27.8 for men and women (CIA World Factbook 2012).

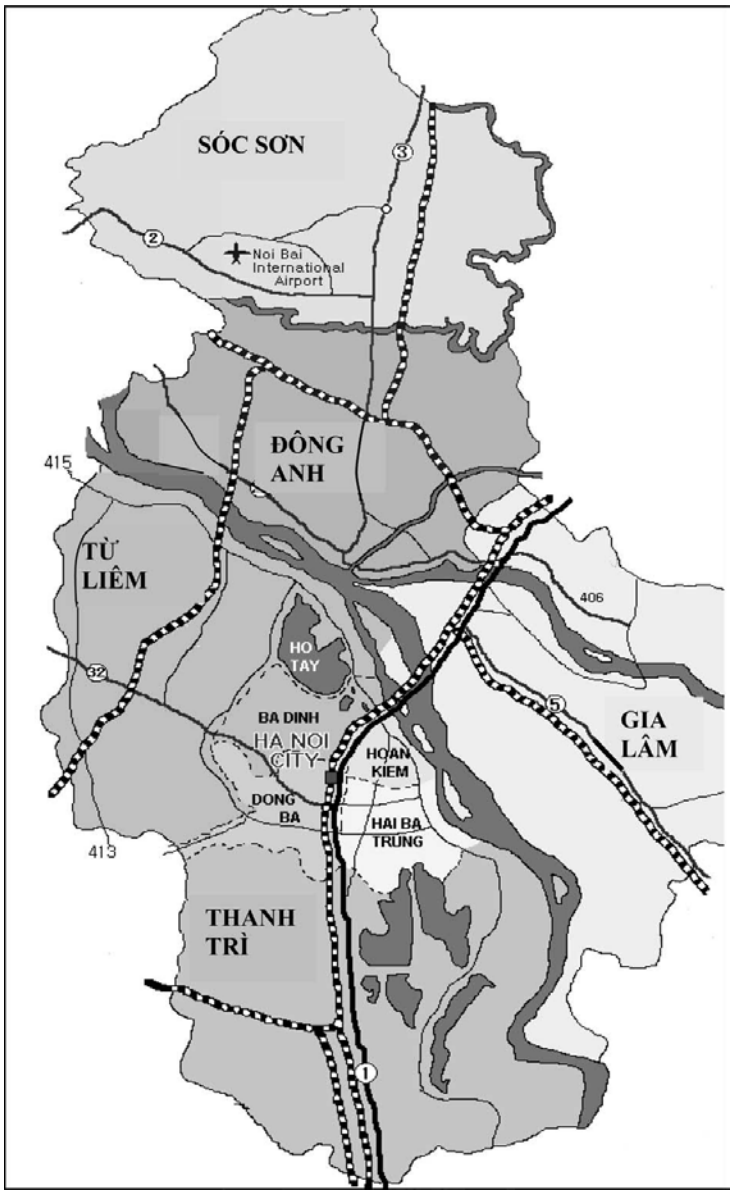

Figure 3: Urban Hanoi and Peri-Urban Surroundings. Source: van Horen 2005:166.

Ethnographic Perspectives on Poverty in Hanoi

The interviews I conducted with poor Hanoian households were more complex, ambiguous, and revealing than the predictable analyses of poverty I had become accustomed to reading in the World Bank library or at the United Nations Development Program reading room. Whereas during the first few few sets of interviews, I was taken aback by the material

deprivation that families faced, my perspective slowly shifted over the course of more conversations. I stopped perceiving poverty at the front of the scene, and became more sensitized to the uniqueness of someone's life circumstances, the signs of individuality and collective belonging that could be spotted in the house, and the pleasures and sadnesses of work, family, health, survival, and life experience in the city.

> The *bác tổ trưởng* (a man who is the elected head of the sub-ward) has met us out on the main street and led us down to meet a woman with a sick husband. Her house is so spare, not even a calendar on the wall. She sells food from a stall for a living. The house is completely bare of any amenity, almost just a concrete box with a bed in it.
>
> She says "Every time it rains, the house floods with water. I just have to push the bed up and block the door. This area is low. Before there were lakes here but now people have filled them in, so there's no place for the water to flow. … Some houses over there have money so they've been able to raise the foundations, but I haven't been able to yet, so every time it floods I have to clean the house."
>
> Nguyễn Thị Dịu, 28 years old, female. Train tracks run past the tiny concrete house. The woman who lives up here is unusually thin and frail. Her husband died at a very young age; his picture is on the altar; she is raising their son. She cries from the beginning of the interview. Tears are running from left and right eye at the same time. I put extra money into the envelope. There are blank spots on the tape where she's silently crying. [Field notes, July 29 2010, Long Biên district, Gia Thụy ward]

Because I was interested in the correspondence between the cholera prevalence and the concrete situations of poor families, I design a survey instrument to collect a wide variety of information about life circumstances, and included questions to help me determine a household's relative degree of poverty. While I asked all families whether they belonged to the list of officially poor households in the area, I did not rely on this variable as an indicator of a family's degree of poverty. In the absence of more reliable definitions of poverty, I felt I had been manipulated into the position of adjudicating poverty, and attempted to systematize a rough scale

of relative poverty. I accomplished this by inquiring about the type of residence (i.e. permanent or temporary; with or without a bathroom, rented or owned) and of household's possession of durable goods, which gave me a consistent method of comparing households from my interview sample. Other details, such as employment, access to state or other forms of support, and family composition, also helped provide a sense of how poor a household was with respect to other households in the sample. The below interview excerpt is with a family that, despite being officially classified as poor, represented a much better-off household compared to others in my sample.

ML	Do you have a bicycle?
Cô Hương	We have one.
ML	Do you have a motorbike?
Cô Hương	We used to, but it was old and so I sold it. I want to buy a new one, but haven't got enough money yet.
ML	As for a car, probably you're waiting for the children to buy it? (*Ô tô chắc chờ hai cháu?)*
Cô Hương	We don't have one.
ML	A refrigerator?
Cô Hương	I have one in the child's room.
ML	A table telephone?
Cô Hương	Yes.
ML	You probably use a cell phone when you go to work?
Cô Hương	Yes.
ML	Computer?
Cô Hương	We had one, but it broke and I sold it.

ML	Do you have air conditioning?
Cô Hương	No.
ML	Speakers?
Cô Hương	No.
ML	TV?
Cô Hương	Yes.
ML	Do you have any other property besides this house?
Cô Hương	Just this house here. (…) It's pretty spacious here. We have two rooms for people to rent. This is the house that my husband's parents gave us. They gave us the land and I built the house. – Lý Thu Hương, 42 years old, female, Long Biên district, Sài Đồng ward, 11 August 2010.

A family at the poorer end of the sample provided a series of less favorable responses to this portion of the interview. The respondent's frustration was evident from the beginning of this line of questioning.

ML	Does your household have a bicycle?
Bà Gái	We don't have anything at all. (*Không có gì sất.)*
ML	You don't have a motorbike?
Bà Gái	We don't even have a bicycle, what are you talking about, motorbike? (*Xe đạp còn không có, nói gì xe máy.*)
ML	Does your house have a refrigerator?
Bà Gái	No, we don't have anything, just that clothes cabinet.
ML	Do you have a table telephone?
Bà Gái	Yes, my daughter's son just bought a phone, a wireless thing, but it's his, it doesn't belong to the house.

ML	Does anyone have a mobile phone?
Bà Gái	No.
ML	A computer?
Bà Gái	No.
ML	Air conditioning?
Bà Gái	We don't have [it] at all.
ML	Speakers?
Bà Gái	No. We have a TV that my grandson bought for us last year. – Nguyễn Thị Gái, female, 80 years old, Hai Bà Trưng district, Đông Mác ward, 13 April 2010.

Homes, Households, and the State

Whereas at the outset of research I originally conceived that I would be interviewing "people" in their "homes," the process of requesting and receiving research permissions slowly impressed upon me that in fact, what everyone else thought I was doing was interviewing a different entity: "households" (*hộ gia đình*). That is, I was not quite speaking to atomized individuals, but to a group of people who were officially conceptualized as representing an economic and administrative unit at the bottom of the pyramid that ideationally reaches from the "grassroots" to top levels of policy-making. The notion of "household" implies a normative kinship arrangement (patrilocal, patriarchal, gerontocratic). As well, there is a public quality to the "household" – or, at least, a household has a public aspect, and its members are obliged to recognize certain claims made upon it by outside agencies. Distinctions between "public" and "private" space and practices in Vietnam do not correspond to the distinctions made in Western contexts; as Lisa Drummond argues,

> the distinction between public and private space in Vietnamese cities is transgressed or blurred both from the 'inside out' and the 'outside in'. By these terms, I mean that, from the inside-out, families and individuals make use of so-called public space for private activities to an extent and in ways that render that public space notionally private. And from the outside-in, the state's interventions in so-called 'private' space, particularly in the organisation of domestic life, are so invasive and so wide-ranging as to negate or seriously compromise a conceptualization of 'private' space. [Drummond 2000:2378]

Having recognized that I potentially represented an "outside-in" intervention into the "private" space of households and families, I made an effort to proceed with some delicacy, letting respondents lead the conversation, and attending to verbal and nonverbal cues that a line of questioning was inappropriate. I also paid attention to physical surroundings, a less overtly intrusive way of gaining information about a household's history and quality of life. Whereas I had originally opened interviews by trying to gain a sense of a family's composition, its approximate degree of poverty, and its access to health services and information, my questions progressively shifted to include other locally meaningful topics, one of which was housing. I found that most men and women had an embodied, historicized, discursively mediated relationship to their homes and physical surroundings, almost as if the house were a second body. Indeed, the word "house" in Vietnamese can also signify "my family" and "my spouse."

For poor households, talking about housing often led to talk of poverty: unsurprisingly, housing dovetails with other indicators of poverty, such that the homes of poor families are more likely to be poorly constructed, to lack access to water and sanitation, and to be crowded. In cities, poorer families tend to live on "lanes" (*ngõ, ngách*) inside blocks of housing on mazelike corridors with just a few points of entry or exit to main roads. Crowding and poor housing stock represent potential sources of ill health; home ownership, while affording a measure of security, does not necessarily represent access to a more comfortable or advantaged style of life. The

below interview was conducted with a woman who was living in a small house with seven family members, two of whom were suffering serious health problems; she herself, the only wage-earner, was struggling with the disabling consequences of extrapulmonary tuberculosis. The story of her family's residence at their house provided a small vision into the history of socialist housing entitlements and the changing fortunes of industrial workers in the post-transition period.

ML Is your house 'enclosed' (*khép kín*)? Do you have a bathroom inside the house?

Chị Linh It's a collective-style house, but the bathroom's inside the house.

ML Oh, a *nhà kien cố khép kín.* Is this your house?

Chị Linh This is the house of my husband's father that we separated out to share. Before it was a communal-style house and we rented it. We've been here a long time so the state sold it to us, we bought it back from the state about five years ago. We are the official landlords.

ML Your father[-in-law] works in Hanoi?

Chị Linh Yes, he works at the wool weaving factory, he was given this house to live.

ML So this was a communal-style house that was repaired?

Chị Linh No, when I had my youngest child the child was two months, in 2004 then the ward subsidized me with a little money to build a bathroom, and this house, when I lived in it then it was very dilapidated, I borrowed more money to repair this compartment-type room right next to the house. Recently I was sick and all the aunts and uncles gave money, everyone gave a little, so we tiled this wall for the child to be able to sleep in a clean room. And over there my husband's mother with his two younger sisters, and on this side it's myself with my husband and the kid(s). [Trần Hà Linh, female, 46 years old, Mai Động ward, Hoàng Mai district, March 5 2010.]

The father-in-law's housing entitlement was an outcome of Vietnam's mid-century adoption of urban housing for poor and working people in the form of Soviet-style architecture (Logan 2000:204). Many such buildings still remain in Hanoi: apartment blocks with saffron cement façades. Anthropologist Christina Schwenkel has written about the "visual and sociospatial transformation" of socialist architecture in Vietnam, noting how socialism's "modern" architecture has become "unmodern," "and its residents from privileged citizens in priority dwellings with lavish amenities to disadvantaged urban poor with inadequate facilities and destructive urban practices" (Schwenkel 2012:438). While the residents I visited in socialist *khu tập thể* ("collective")-style housing didn't complain about their situation, it seemed that residence in collective housing no longer conveys preferential status. The complexes appeared poorly maintained, and the original details of the Soviet-style architecture were impressive for having made so few accommodations for Vietnamese social and environmental realities: cubic buildings with open-air balconies on each floor; a courtyard at the center of the complex; no elevator; and five flights of short concrete steps with a smooth portion in the middle to allow pushing a bicycle. Inside, the few boxy concrete rooms of an apartment were plain and, without insulation or central heating, so cold in February that we all sat in our winter clothes to conduct the interview.

While state-provided housing followed a predictable floor plan, the layout of other accommodations varied wildly, from the relatively spacious to constricted "narrow" (*chật hẹp*) residences consisting of a single room or two. Poor families fit their lives into houses that are often physically inconvenient, remote from amenities, and proximate to dust, noise, industry, roads, and polluted streams. They are located in the middle of labyrinthine urban lanes, at the back of tunnel-like entrances to the interior of a block of homes, or, in peri-urban areas, off dirt

paths that could barely be traversed by motorbike.[31] Inside, houses often had an oddly shaped floor plan, suggesting that a larger accommodation was subdivided into a smaller accommodation, that the inhabitants modified the space, or that it was simply built without a standard blueprint. They frequently featured little roomlets, sleeping lofts, and other structures to accommodate more people than were originally intended to inhabit the space.[32]

Despite the lack of breathing room, the homes of poor urban families feel plain but not undecorated. Walls are painted light pastel colors or white and floors are done in linoleum or tile or poured concrete and sometimes covered with a mat for sitting. The walls are decorated with printed calendars; with framed photographs; and, often, children's words and numbers and drawings in pencil, crayon, and ballpoint pen. Some families put large photos or posters on the walls, including enlarged family photographs like wedding or baby pictures. Virtually universally, Vietnamese families tend a home altar that provides incense and fruit and prepared food for house spirits and ancestors.

Whereas the homes of wealthier residents sometimes feature decorations like tapestries and upholstery, which can only be preserved via climate control, low-income houses are open to the weather and humidity. Typically, they are furnished with wooden beds and small tables and cheap electronics from China and Japan: water coolers, refrigerators, radios, TVs, rice cookers,

[31] "The urban poor usually work to earn a living around their living areas, on sidewalks, and along streets. The areas with clusters of poor households may vary from city to city. For example, they can be the slums along the canals in Ho Chi Minh City, or they are shacks in poor suburban alleys in Hanoi, Hai Phong or floating fishing boat communities in Hue. These areas are often characterized by a weak infrastructure, polluted environment and are usually affected by flooding" (Nguyen Xuan Mai 2006:108).

[32] The regulation of real estate is chaotic in Hanoi, and there is no evidence that minimum cubic volume standards are enforced in theory or in practice. However, poor families tend to live in smaller, less well furnished houses, except in cases where a family owned surrounding land, or in cases where real estate had been inherited intergenerationally, which sometimes meant that less economically advantaged residents enjoyed a more pleasant accommodation. Some houses were so tiny, that belongings were squished in along with residents. Single-room dwellings were often inhabited by widowed women without children, or by individuals or couples with little to no earning potential.

fans, and occasionally a home karaoke system. A diverse assortment of plastic goods meets the needs of everyday life: thermoses, buckets, tubs, stools, mats, curtains, containers. Mosquito nets are sometimes draped above beds, especially when there are babies and children. Lighting is mostly by fluorescent tubes or single bulbs and ventilation is accomplished via screenless windows and doors. Houses are cold in winter and hot in summer. There is often no built-in kitchen, and sometimes no bathroom. Women cook and boil water over bucket-size insulated metal stoves that are placed outdoors, fueled by a circular brick of sweet-smelling but toxic pressed coal (*than tổ ong*). Daytime visits meant lights were not always turned on, and we would sit on the floor or low furniture in the available light to get introduced.

Living space often doubles as work space, with areas set aside for cooking large amounts of food, repairing machinery, sewing clothes and other textiles, or making votive goods to sell outside the home. One family rented the front room to a vegetable vendor during the day so she could participate in the market that was held outside the front step of the house (Trần Thị Tuyết, female, 78 years old, Hai Bà Trưng district, Đồng Mác ward, 13 April 2010); another household had an area set aside for making the tiny boxes that are scattered on the ground on the way to a funeral; one family in a peri-urban district maintained the formerly common practice of keeping a pig in one room of the house (a nuisance to the entire neighborhood, as a woman in a different district pointed out, but not one which neighbors would ever complain about, in consideration of the family's circumstances). More commonly, motorbikes and bicycles were parked inside the living area; middle-class families do this too, though in more spacious quarters.

Most of all, homes are crowded by people. This results both from financial necessity as well the nearly universal practice of patrilocality, which often entails multiple generations living under one roof and grown children remaining at their parents' house until (or, in the case of sons,

after) marriage. Where residential and neighborhood crowding is common and private indoor space is limited and inadequate, there is, as Lisa Drummond (2000) suggests, a tendency for public and private spaces to interpenetrate, and for activities that are considered private or semi-private in the "West" (including eating, grooming, exercising, and socializing) to take place outdoors or in semi-private public communal space. The sounds in the background of my interview tapes – traffic, televisions, radio, the songs and conversations of neighbors, the voices of babies and children – indicate how challenging it was to maintain the sonic exclusion that corresponded to my idea of a "private conversation" – or, in some cases, to maintain Institutional Review Board-required "confidentiality" when neighbors and family members stopped by to listen or to join the conversation. Although I requested Health Station employees to leave the interview for the duration of the conversation, I did not exclude the input of respondents' spouses, parents, and children, and sometimes asked co-respondents who were participating very actively in the interview to sign a consent form so I could pose questions to them more freely.

As the preceding discussion of the process for making official determinations of household poverty shows, the relationship of the household to the state is structured by the porous boundary between what information is considered public and what is considered private: particularly, the state is empowered to collect information regarding household composition, the behavior of household members, and the household's finances. The state's aspiration to government through statistics, theoretically totalizing, turned out to be like the post-reform state itself: patchy, contingent, inconsistent, and selectively blind to the economic consequences of liberalization.

My research ultimately depended on the prerogative of the state to make contact with citizens, a function which remains intact despite the reduction of state personnel and service in

Figure 4: Nguyễn Bình Thủy (left) and family, all of whom participated in the interview. Hoàng Mai district, Yên Sở ward, March 12, 2010.

the post-transition period. Owing to the politicization of research conditions in Vietnam, I rarely found myself outside the channels of official introductions. It was health station employees whose collaboration with local offices of the People's Committee (*Ủy Ban Nhân Dân*)[33] who enabled my access to poor families.[34] This process developed in the fashion that is locally characteristic of formal procedures: starting at the top of the administrative pyramid and proceeding downwards through the hierarchy, step by step. First I received approval from district-level health centers (*Trung tâm Y tế phường*), where I secured the permission of the

[33] For a valuable discussion of ward-level governance by the People's Committee and other political institutions in Vietnam, see Koh 2001.

[34] While my partnership with a state agency in drawing up a list of research respondents prevented me from having access to "invisible" poor populations such as rural-to-urban migrants, it did have some advantages. Particularly, interviewing a population selected from residence records by health station workers allowed useful insight into the relations between the state and poor families, as the state was personified by health station staff. Particularly given the historic significance of health stations in reducing infectious diseases such as cholera, I was curious about the

director of the health center and the district office of the People's Committee to conduct interviews in Hoàng Mai. Following the approval of my request, I proceeded to solicit the help of the director or vice-director of the health center in nominating six wards, which I intended to be random. From this point, I proceeded to be introduced to personnel at ward health stations, who acted as my hosts and facilitators in the process of household interviewing. At each respective health station, health staffers personnel randomly[35] drew on their memories and/or the list of officially poor households compiled by the local People's Committee, selected five poor and/or near-poor families (often referred to as *đối tượng*, "objects") per ward on my behalf, and established that they were willing to be interviewed. Upon completion of the last set of interviews in my first interview district, I asked the director of the district health center to introduce me to health center personnel in the next district.

At the level of the household, my interface with household members was also chaperoned: I was always accompanied to interviews by a "guide" (*người hướng dẫn*), a health station employee who would lead me to the houses where interviews were arranged. Sometimes the guide would stop at the door, waving me in with a few words of explanation; other times, they would come in and sit down, accept a cup of tea, and catch up on household or neighborhood news before departing. On a number of occasions, I was surprised by the ease with which a guide would introduce me to a family by providing a detailed summary of their household's circumstances, including the life stories of family members absent and present, the house's financial situation, and any unusual events in the health of its members over the course of life. Despite the diminishing capacity of the state to provide special resources or statuses to

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interface of ward health stations with the population in post-reform urban Vietnam. I was interested to see how these institutions functioned in an era of more limited funding and decreased service provision.

poor households, the power of state agents to collate information about a household's private affairs appeared unquestioned. But, as David Koh has written on ward-level administration in Vietnam, "the state is not faceless" (2001:379); indeed, it is sometimes quite personable. On some occasions, I had the impression that it was a patronage relationship between the health station personnel and a household which had brought me to interview a given family in the first place, as the relatively small compensation of 50,000 VNĐ that I routinely presented to interview respondents was, for some families, a not meaningless contribution to daily income.

While entering households with the permission and presence of state workers gave me a unique vantage point into the articulations between citizens and local authorities, I (naïvely) did not immediately realize was that my association with the state, from the perspective of respondents, would rub off. In retrospect, it seemed inevitable that I would appear as a quasi-representative of the state, turning up at people's homes in the company of a health station worker to request an interview. To cement this impression, I was often introduced with reference to the permissions that had been granted by the ward People's Committee. I was even sometimes humorously referred to as a "comrade" [*đồng chí*].

Despite my foreignness, it seemed to me that my presence had some of the same effects on my respondents as a visit from a state agency might have. This was not just because I appeared in their company, with the implicit approval of the People's Committee, the Health Center, and my own university, but also because I asked questions that engaged the same categories that the state itself generated, inquiring about a respondent's salary or pension, and health insurance, and access to other services and benefits such as health care and education. In response, families often went out of their way to substantiate their statements about their

[35] I was not directly involved in this process and assume that, at least sometimes, "randomly" meant personalistically

financial as well as physical health, pulling out hospital documents and doctor's prescriptions, utility bills, rent receipts, and bottles of medication to cement their remarks with evidence. Further, it was also not uncommon for people to make remarks that suggested they perceived my research assistant and me as potentially able to influence a determination by a state agency on their behalf. Families would sometimes enjoin me to make a report of their circumstances to the health station, as part of an ongoing effort to have a claim acknowledged.

Cô Vân	I want to ask for a form to go get a health check.
Research assistant	For that, you have to go to the ward. Does your house belong to the list of poor households in the ward?
Cô Vân	Yes. The ward said we're a poor household but they gave me nothing.
ML	They still haven't given you health insurance?
Cô Vân	Not yet. They still haven't given a cent. Just on the New Year, then we get 200,000, but that's it. I'm weak like this so I can't carry merchandise. I only sell things in the house, I can't sell outside the house. So I'm often sick and want to go to the doctor, but I'm afraid it'll be very expensive. There's no money for me to go. I asked for insurance and they said no. I ask for money every month and still can't get anything. – Nguyễn Thị Vân, 48 years old, female, Hoàn Kiếm district, Hàng Buồm ward, August 27, 2010.

Although respondents often used the interview with me as an opportunity to voice their disappointments with how the state had handled their situation, they sometimes also surprised me by speaking "like policy" ("*như chính sách*"), demonstrating their knowledge of health and medical information, citing the Party (*Đảng*) and the nation as the authors of whatever good fortune they enjoyed, emphasizing the social good of my research, and employing the register of

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and/or conveniently.

officialese to articulate the meaning of our exchange. This dynamic suggested to me that rather than achieving a wholly objective assessment of a respondent's life circumstances and degree of poverty, I received information mediated through my respondent's understanding of their relationship to the state. Policy-like language, aligning the speaker implicitly with the state's image of a self-responsible citizen, indicated that the speaker perceived the interview as a formal, state-mediated event, and wished to project their receptive disposition towards the state's agenda. One woman, whose walls were covered with photographs of family members from their military service, welcomed me extremely hospitably, serving fruit and tea and speaking at length. She concluded her remarks with the following patriotic sentiments:

> I'm very happy to have met you two children, future fighters for the nation, for research; people who are interested in the people's health. I hope that in the future our country will develop well and that your talents will have the ability to improve the lifestyle in our country, and that all the districts of the country can also progress. – Lê Thị Minh Tâm, female, 57 years old, Hoàng Mai district, Yên Sở ward, 12 March 2010.

These statements gave me the impression that socialist constructs around the utility of public health are still a part of the national consciousness, cementing my impression of such a relationship more strongly than the murals, posters, and fliers that I saw at neighborhood health stations. While the latter all appealed to the ethical relationship between patients and doctors, the legitimacy of health cadres as proxies of state benevolence, and the moral meanings of medicine in the context of the socialist state, these sorts of claims appeared in curious juxtapositions, their meaning shifting subtly in the context of the private clinics that were next door to state health facilities, or the private medical testing businesses that set up shop at health stations. The use of socialist rhetoric by individuals in their homes suggested that some cachet, social capital, or subjective experience of positive associations is accessible via praise for the

Party and the state.

This type of language also suggested paternalistic or clientelistic relationships between local state agencies and families, with families working to address themselves to the state in a bid to be perceived and classified in advantageous fashion. As respondents suggested with their accounts of "asking for" (*xin*) entitlements from state offices, designations of poverty or allocations of benefits could sometimes be given or changed in response to requests for an official consideration. This is because the determination of who qualifies as officially poor and deserving of state aid is based, at least in part, on unofficial but emically meaningful criteria such as a person's appearance, behavior, housing, occupation, family composition, and so on; for example, households whose heads are "alcoholic, or gamblers, or lazy," or who "do not work hard enough" are excluded (Asian Development Bank et al. 2003:84-85, 120). I speculated that this readiness to claim poverty publicly was at least partially the artifact of moral meanings of poverty in pre-market reform Vietnam, where poverty connoted not so much a failure to compete so much as a failure by a community and its leaders to maintain a minimum standard of well-being for all, just as famine or plague once signified the failure of the sovereign (Marr 1981:59). By publicly pronouncing themselves poor, families proactively deployed prior concepts of deserving or virtuous poverty aligned with socialist perspectives on poverty, as well as the "state-sponsored Confucianism" of the dynastic period (Nguyen-Marshall 2005:239). Therefore, requests by families for me to assist their process of getting financial or other forms of support from city departments were legible as a form of political critique, shedding light on the imprecision and subjectivity of poverty reduction targeting; they also showed how the system allowed room for maneuver.

Hence, claims to being "poor" were legible as pragmatic utterances as well as moral

claims. In post-reform Vietnam, where poverty reduction has served as a central justification of neoliberalizing economic reforms, the imperative to reduce poverty by counting less of it means that, administratively, there is simply less poverty to go around. In response to the scarce asset of state aid in a period of reduced assistance and the dismantling of institutions for collective welfare, official poverty has become something akin to what anthropologist Joseph Dumit calls an illness "you have to fight to receive" (Dumit 2006). The curious statement of one respondent[36] underscored what an asset it would have been for her family to be considered officially poor, describing her family's financial circumstances in a brief sentence:

"*Ở đây chỉ có Tết hay ốm đau thì có quà thôi còn thì không được nghèo.*"

This statement renders in fragments when translated into English: "Here, there is just *Tết* / [I'm] often sick / so [I/we] only receive a gift / however, [I/we] cannot be [officially considered] poor." However, Mrs. Gái's sentence is robust in its juxtapositions and implicit causal relations. The statement of place ("here"/*ở đây*) is implicitly contrastive, suggesting that other houses enjoy better circumstances, and the speaker's running together of the New Year – the year's happiest and most propitious public occasion – with her family's frequent illness, is peculiarly pessimistic. These clauses express a sense of injustice that the speaker's illness and the family's poverty are insufficient in the eyes of the authorities to merit more than a small gift at the New Year.

But what especially caught my attention about this utterance was the speaker's use of the passive particle "*được*" to qualify the state of being poor, which in adjectival and verbal constructions implies a good or favorable situation: for example, "to be a good student" (*được học sinh giỏi*), "to be praised" (*được khen*), or "to get a salary increase" (*được tăng lương*). The

[36] Nguyễn Thị Gái, female, 80 years old, Hai Bà Trưng district, Đông Mác ward, 13 April 2010.

particle *bị is* used to suggest that the subject of a sentence is suffering a negative state or consequence. The statement "*Không được nghèo*" (I/we cannot be [officially] considered "poor") therefore appears contradictory – unless it is understood that being included on the ward's list of officially poor households is a status more aspirational than stigmatizing.

This account also helped me understand that determinations of poverty are, in part, dialogical, and it can be incumbent upon household members to demonstrate poverty in order to be recognized and certified as poor. Although poor families clearly expressed that they considered poverty ignominious, uncomfortable, and inconvenient, they were also determined to mark it discursively as evidence for their deserving status. In order to be eligible for the benefits associated with official poverty status, households are required not only to meet official criteria, but to manage their community's impression of their level of welfare. This was a logical response to the situation poor families faced in seeking support. Given that the question of who may be entitled to the designation "poor" is debated by local officials, if other community members failed to perceive someone as poor, it would reduce one's chances of being eligible for support.[37] As Mrs. Gái explained, her family had been overlooked for state aid because their housing situation and the presence of family members nearby made them appear to enjoy relative advantage:

ML	At other wards there are families who belong to the "poor family" category; why doesn't your family have it?
Bà Gái	Many houses have more than we do and are considered poor, but my husband and I are poor and can't. They say we have a lot of

[37] A report by the Asian Development Bank (2003) suggests that knowledge of "who is poor" in a neighborhood is widespread, and that such knowledge is sufficient to ensure that households will be properly classified: "The actual classification of households produced by village assemblies, under the leadership of elected village chiefs and with assistance from local authorities, produces remarkably accurate results. At the village level, people know who is poor without having to compute income or expenditure measures" (ADB et al. 2003:xvi). In practice, however, it often appears that this process is not so straightforward, and appears less than satisfactory to households who believe themselves to be deserving but are excluded.

children and a house, at *Tết* they come and wish us 'happy new year' (*mừng tuổi*[38]) and we receive a few tens [of thousands of VNĐ], that's all; otherwise, we don't have anything. Now we don't have a pension and we're old, sick; they tell us we have a house and something to nibble on, but can we really eat? They say 'Lean on all your children and grandchildren,' but they don't have anything for us to lean on. So that's it (*thôi*); we've resigned ourselves to eat vegetables if we have vegetables, if we have rice porridge we eat rice porridge. – Nguyễn Thị Gái, 80 years old, female, Hai Bà Trưng district, Đông Mác ward, April 13, 2010.

This respondent, like others who remarked on their household's degree of poverty, made claims with more assertiveness than shame. On other occasions, men and women made statements like "We are the poorest people in this whole neighborhood" or even "There is no one as miserable as I am, suffering every hardship."[39] People who felt their circumstances to be particularly bitter used the word *độc*, "poisonous." For example, Mrs. Linh of Mai Động ward described her family's circumstances angrily and through tears. Her statements revealed not only the social consequences of poverty that she and her in-laws had suffered, but also the gendered dimensions of her responsibility to her husband's relatives and her children.

ML So you have belonged to the poor households' list since 2009?

Chị Linh 2009. Generally I don't like to be considered as a poor family, with the neighbors like this, I should cry if you compare me with them. (*Crying*) If no one asks me then that's it, I've reduced my sadness and jealousy. If you ask me, then it makes me cry. Generally my family's circumstances are too difficult. (…) When it became impossible, I called on the district to [ask for] help, and before it became more miserable. Before, we were very miserable but we didn't complain of our misery, up until now we were also so miserable. So I couldn't assume responsibility any more and so I began to ask the ward to add us to the list of poor households.

[38] Literally, this phrase means to give congratulations for a new year of age. Vietnamese people traditionally observe the Lunar New Year as everyone's birthday.
[39] Nguyễn Phương Ngân, female, 40 years old, Hai Bà Trưng district, Bạch Mai ward, April 15, 2010.

ML Yes, I'm sorry. If you don't want to say anything more, it's fine.

Chị Linh No, I still want to talk, I'm so miserable, including as far as affection goes, and as far as money goes, no one consoles me. (…) When I think about it, I'm writhing. From then until now I'm still the same but we were only able to be considered a poor family for a few years, last year we couldn't. For some years before we were counted as a poor family, no one wanted to step in [enter the house].

If I hadn't come back to get married here then now there would be no one marrying into this family [lit., *coming into this house*], this family wouldn't exist as it does now. In the old days the house was just extremely dilapidated. In back there we also have to build more, the daughter-in-law's house [*i.e. her own house*] has to compensate to build houses for the children [*i.e. to share the property out to the children when they are grown*]. I'm poor but I still guarantee they have enough to eat. [Trần Hà Linh, female, 46 years old, Mai Động ward, Hoàng Mai district, March 5 2010.]

Mrs. Linh's family, when counted by the ward as a "poor family," received 250,000 VNĐ (US $12.50) per month from the ward to support her two disabled "aunts"; the household's total income was approximately 300,000 a month, or, as she explained, "not enough to eat." For all but the most challenged families I interviewed, the state appeared to be providing virtually no guarantee of a minimum standard of living. None of the above families were entitled to fee exemptions, free services (besides health insurance), or supplementary aid in recognition of their family members' disability.

Official reports on the "pro-poor" quality of the Vietnamese transition emphasize the provision of diverse forms of social welfare to citizens, but their details confirmed my impression that the targeting of aid overlooks the urban poor and prioritizes poverty in peri-urban and rural areas. For example, the Asian Coalition for Housing Rights reported in 2004 that 90

billion dong had recently allocated towards infrastructure development and poverty reduction in Hanoi, comprising "medical insurance certificates, treatment, food and burial allowances," as well as "reduced tuition and a number of fees for the poor students in the city," per state legislation (ACHR 2004). While the breadth of forms of aid cited here is impressive, these activities only targeted the rural districts Đông Anh and Sóc Sơn. This article, which gestures towards credibility via its citation of Vietnamese law,[40] inadvertently highlights the patchy, tokenistic, and nearly arbitrary quality of aid provision to poor urban families in the post-transition period. While inequities between social groups were real but limited under socialism,[41] *đổi mới* has created an increasingly inequitable society in which the provision of previously subsidized resources and services is increasingly shaped by the market.

Conclusion

Doing research in contemporary Vietnam is marked by rapid socioeconomic and cultural change and forces observers to reckon with hybrid regimes, social practices, and standards of value. In the context of social scientific research, currents of "liberalization" and "globalization" have translated into increased openness regarding certain kinds of information, and foreign observers benefit from less tightly regulated access to field sites and contact with citizens. However, strictures on information have not evaporated, and the availability and reliability of published data generated by Vietnamese state agencies are a source of methodological complexity in my study and others like it. In my research on the causes of cholera in Hanoi's

[40] Though the law in Vietnam is in many cases not followed and is, as a foreign health policy expert in Hanoi suggested to me, "almost worthless," it is also paradoxically a factor that "governs many, many, many aspects of life. [One] should track the legal and regulatory underpinnings of everything in order to understand it." (Michael Iademarco, personal communication, 10/13/2009.)

[41] Such as between state employees and other types of workers – see London 2004:129.

recent outbreaks, I have avoided an easy reliance on "objective" measurements, such as a conflation of "poverty" with monetary assets, and include qualitative observations and an investment in the moral and cultural significances that diverse actors attribute to phenomena such as cholera.

Liberalization and globalization are also associated with new contexts and forms of disparity and exploitation which have, as I will argue, significant consequences for public health. However, the proliferation of standards for defining poverty means that there is significant uncertainty regarding the prevalence of poverty in Vietnam today. While it was frequently assumed that poor families were more vulnerable to cholera, no studies demonstrated this connection empirically. Focusing my interviewing on "poor" households allowed me a degree of direct contact with individuals and permitted me insight into the many factors that create precariousness and predispose poor families to ill health. It also allowed me to gain a sense of how ordinary citizens thought about cholera and what steps they took to prevent it, topics which I discuss in later chapters.

Chapter 2

Modernity, Morality, Causality: Epidemics and the Social Life of Cholera

> An epidemic is the occurrence in a community or region of cases of an illness, specified health behavior, or other health-related events clearly in excess of normal expectancy. [Porta 2008:79]
>
> An epidemic has a sort of historical individuality, hence the need to employ a complex method of observation when dealing with it. [Foucault 1994:25]
>
> …the epidemic concept is not a neutral description; it's inevitably part of an argument about classification, causality, responsibility, degeneracy, and the imaginable and pragmatic logics of cure. [Berlant 2007:763]

What is an epidemic, and when does a disease event become one? What are the social effects of an epidemic event? What does the appearance of an epidemic reveal about the society where it occurs? Though the ontology of an epidemic is often assumed to be self-evident, a universally applicable definition of this phenomenon is hard to pin down. While the term is commonly used to suggest that a disease – or some other phenomenon – has become very widespread or serious, a more scientifically substantive definition is challenging to resolve. The definition by Porta cited above is often repeated in epidemiological texts: Following a conventional epidemiological definition – culturally particular to the quantitative, empiricist epistemology of biomedicine – an epidemic constitutes a disease event in which a pathogen infects a number of individual hosts in a population at a rate above the usual rate of infection. However, in practice, the determination of what features are both necessary and sufficient to constitute an epidemic are elusive. As one epidemiologist acknowledges, "There is just no universally useful definition" (Giesecke 2002:19). From a humanistic perspective, an epidemic can be understood in terms of its social context and the response it engenders. As historian of

medicine Charles Rosenberg implies, an "epidemic" describes more than disease incidence "in excess of normal expectancy," but is inherently productive of public response and mediation:

> A true epidemic is an event, not a trend. It elicits immediate and widespread response. It is highly visible and, unlike some aspects of humankind's biological history, does not proceed with imperceptible effect until retrospectively 'discovered' by historians and demographers. [Rosenberg 1992:279]

A mass disease event in excess of normal rates may claim life and health without being designated *epidemic*: a phenomenon has to be called an epidemic before it can be recognized as such. As Tuong Vu emphasizes, epidemics are political processes composed of sequenced phases, which he posits as proceeding from the "pre-political" phase to the "announcement" phase to the "mitigation" phase and concluding with a "rebuilding" phase (Tuong Vu 2011). Particularly, in the absence of victims – real or potential – who embody what Agamben (1998) terms "politically qualified life," a disease outbreak may not secure the crisis status that legitimates the declaration of an epidemic. Poliomyelitis in the 1930s and 1940s United States, which threatened young children, constituted a crisis, while the appearance of HIV/AIDS among gay men in the 1980s failed to inspire enough political will to raise the disease's emergence to the status of an epidemic until populations were threatened (Trostle 2005:106). Given that the designation of an "epidemic" can be read not only as a statement of the epidemiological facts surrounding a disease event, but also as an indication of a state's perception of risk to certain social groups or institutions, the designation of an epidemic also implies that a disease is politically, not just mathematically, significant.

Therefore, the epidemiological definition of an epidemic is inadequate. An epidemic does not exist *a priori* of a diachronic comparison that presupposes both an established baseline of the "normal." It comes into being via the determination of political as well as scientific

concern. Given that scientific descriptions and definitions of epidemics do not exhaustively represent the anthropological features of epidemics, and that the question of what "counts" as an epidemic is at least in part political, studies of epidemics from other disciplinary vantage points help establish the intellectual coordinates of the epidemic concept and delineate the effects of epidemic events in diverse historic and cultural contexts.

In the first part of this chapter, I describe some of the sociocultural attributes of epidemics, including the logics of power and knowledge that bring them into being, as well as the way in which they may correspond to forms of social stratification. Cholera, a "classic" epidemic disease, has long been understood as a disease that implicates the socially mediated distribution of power, resources, and rights. The historic 19th-century struggles over the causes of cholera, though apparently resolved by the concretization of the "contagionist" hypothesis, were nevertheless shored up by notions of cholera as a disease associated with south Asia and local poor populations. While often made to stand in for qualities such as filth, darkness, immorality, and despotism, cholera also has an ironic association with the development of "modern" social, political, and economic forms.

The second portion of the chapter focuses on cholera in medical anthropological and other disciplinary perspectives. Much of the literature on cholera is centered on western Europe and North America; there is radically less historicization and social analysis of cholera in the parts of the world where it has claimed most life. My discussion of cholera in Vietnam represents a preliminary attempt to recenter writing on the significance of this important infectious disease.

I conclude the chapter by focusing on the history of cholera outbreaks in Vietnam, where epidemics have been associated with feudalism, conquest, colonialism, and war. Outbreaks of

the disease occurred nearly continuously in the colonial period, especially in Hanoi and throughout North Vietnam. Following independence from colonial rule, the socialist government of the Democratic Republic of Vietnam prioritized the control of infectious disease and the promotion of hygiene at the level of the village; cholera eradication is associated with the high modernity of state socialism. Despite widespread poverty, cholera was wiped out in the DRV as early as 1957. I argue that the recent resurgence of cholera in Hanoi threatens to align the inequity and chaos of liberalization with historically prior political economic disturbances such as colonialism and war.

Epidemic Effects

Destabilizing the temporal, social, and institutional premises that structure social relations, epidemics violate expectations for the everyday, entailing rupture, crisis, and the potential renegotiation of social forms. In parallel fashion to Bakhtin's theory of the carnival, epidemics provide an affectively charged opportunity for escape from the mundane, the inversion of conditioned social exchanges, and the revelation of repressed social truths.[42] Bakhtin implicitly relates these two spheres in *Rabelais and His World*, writing that plague influenced prevailing social mores at the time of the writing of the *Decameron* by producing liminality and social leveling:

> Life has been lifted out of its routine, the web of conventions has been torn; all the official hieratic limits have been swept away. The plague has created its unique atmosphere that grants both outward and inward rights. [Bakhtin 1984:273]

[42] However, epidemics have also historically proven the opportunities for the assertion of authority, the imposition of novel forms of social control such as quarantine and involuntary detention of suspected victims of disease, and the outbreak of violent class struggle (Delaporte 1986, Snowden 1991).

> …[T]he plague awakened a cosmic terror (…) related to a system of eschatological images and mystical ideas. But natural catastrophes, like other catastrophes, usually also awaken historical criticism and lead to a revision of all dogmatic positions. [Bakhtin 1984:340]

As these passages imply, the "epidemic" is the bearer of a unique temporality, marked by inversion and functioning independently of routine social activities and chronological orientations. Arising unpredictably, governed by forces beyond human control, epidemics inaugurate their own temporality and delimit a period of social exception. This apparently natural temporal frame is the epiphenomenon of social responses to the outbreak of mass disease, which characteristically occur in stages so predictably ordered that Rosenberg (1992) argues that contemporary epidemics follow a set dramaturgic form from initial discovery to final resolution.[43]

An epidemic's expression of chaotic, impervious nature not only creates the sense of liminality and social upheaval, but typically also inspires culturally specific attempts to regain control. In modern contexts, epidemics do not merely constitute the background to cultural responses to nature's hostile vagaries: as Foucault points out in *The Birth of the Clinic* (1994), they also provide the rationale for the assertion of state and police powers.

> A medicine of epidemics could exist only if supplemented by police: to supervise the locations of mines and cemeteries, to get as many corpses as possible cremated instead of buried, to control the sale of bread, wine, and meat…a body of health inspectors would have to be set up… [T]he pathology of epidemics and that of the species are confronted by the same requirements: the definition of a political status for medicine and the constitution, at state level, of a medical consciousness whose constant task would be to provide information, supervision, and constraint. [Foucault 1994:25-6]

[43] The cultural idea that diseases naturally occupy or demarcate a unique, proprietary time is concretized in the title of Gabriel Garcia Marquez's magical-realist novel "Love in the Time of Cholera" (1988), a text I discuss later in this chapter. The resonance of this concept with contemporary infectious disease research is underscored by appropriation of Marquez's felicitous construction by academic authors in fields ranging from anthropology ("Love in the Time of AIDS," Hunter 2010; "Sex Work in Southeast Asia: The Place of Desire in a Time of AIDS," Law 2002, "Stories in the Time of Cholera," Briggs and Mantini-Briggs 2004) to the history of medicine ("Naples in the Time of Cholera 1884-1911," Snowden 2002, "Africa in the Time of Cholera" Echenberg 2011).

Foucault suggests that the concept of epidemic was a driver of the development of institutions of modern medicine: the epistemological break from medicine's exclusive interest in the ill individual "in his singularity" to an entire population inaugurated a type of medical knowing whose totalizing dimensions, in the project of disease surveillance, grew to "achieve the dimensions of a history, a geography, a state" (Foucault 1994:29). This recognition of a class of disease that could affect many individuals inaugurated a political status for a type of medicine that targeted of the population via surveillance, legislation, and education. The distribution of a sovereign medical surveillance through society would become so routine, Foucault suggests, that "One began to conceive of a generalized presence of doctors whose intersecting gazes form a network and exercise at every point in space, and at every moment in time, a constant, mobile, differentiated supervision" (Foucault 1994:31).

As the above discussion suggests, epidemics exceed epidemiological definition to encompass more complex entanglements with "power and knowledge." Although epidemiological data have become, in the modern period, the signature determinant of whether a disease event has reached "epidemic" proportions, a disease epidemic comes into being in modern states when it is recognized and named by experts, then assumes social and political life by precipitating action, compelling discourse, taking on symbolic and moral significance, and prompting the assignment of innocence and blame. For nation-states and international health agencies, epidemic disease instigates action and confers authority on scientific experts and political leaders, motivating the development of protocols for disease surveillance, prevention, and control, prompting the issuing of warnings and the convening of conferences, occasioning the development of technologies, and justifying the expenditure of funds.

Critical studies of disease outbreaks often note a correspondence between an afflicted society and the outbreak, as if the outbreak were the negative face of quotidian social forms. Critical studies often comment on the power of epidemic events to illuminate phenomena that would otherwise remain out of view: "Since they are mirrors held up to society…we need to distinguish the unique from the apparently universal in each epidemic, an exercise that the advocates of contemporary history propose as a contribution to health policy" (Lindenbaum 2001:380). Perhaps as a side effect of this ability to surface suppressed social dynamics, epidemics have often precipitated the expression of racial, gender, and class struggles in a biological idiom (cf. Farmer 1992, Rosenberg 1987, Delaporte 1989, Snowden 2002). In the case of North Vietnam's cholera epidemics in 2007-2010, struggles around class status and identification was expressed in scientific and lay attributions of blame for the outbreaks – much as researchers Nations and Monte (1996) found in Brazil and Briggs and Mantini-Briggs (2004) found in Venezuela during the cholera epidemic that affected Latin America in the 1990s.

Outbreaks of contagious diseases often facilitate the articulation of social tensions because they precipitate unique anxieties by problematizing social relations that come to be understood as dangerous or stigmatized. While epidemics of noncommunicable diseases such as diabetes or cancer are also inevitably suffused with cultural meaning (cf. Meldenhall et al. 2010, Sontag 2001, Jain 2008), infectious disease outbreaks introduce risk into the domain of routine social relations, rendering threatening the patterns of exchange and circulation constitutive of sociality. Outbreaks precipitate unique anxieties, often expressed in a search for culpability, especially when the cause of disease is cryptic or appears uncontrolled. Attempts to explain and make sense of an epidemic also reveal a society's epistemological orientations towards making sense: "Accepting the existence of an epidemic implies – in some sense demands – the creation

of a framework within which its dismaying arbitrariness can be managed" (Rosenberg 1992:282). Indeed, as this literature review reveals, non-biomedical and humanistic writing on epidemics takes an interest in the moral orientation of explanations for epidemics, and participates in the project of framing epidemics as moral signifiers.

Epidemics in Anthropological Perspective

> We need…an ethnography as well as an ecology to explain the network of interactions underlying the appearance, diminution, or recrudescence of particular infectious ills. … Without history and political economy, in other words, we can have neither a meaningful ethnology nor a meaningful ecology. And certainly we cannot have an effective epidemiology. [Rosenberg 1992: 303]

I situate my research on cholera in Vietnam in medical anthropology, aligning my inquiry particularly with critical medical anthropological research on infectious diseases. As Inhorn and Brown recommended in an early monograph, it is intellectually if not morally incumbent upon medical anthropologists to invest increased attention in the study of infectious disease, given that this category of affliction represents the most important cause of suffering and death in "global societies" (Inhorn and Brown 1997:3).[44] Other anthropologists have noted that the study of mass disease events also offers unique methodological advantages, similar to the study of crises and disasters: mass disease events are culturally productive events, generating effects that range from the shoring up of scientific authority, the extension of state power, and the production of social outsides and outsiders via novel logics of stigma and social marking. As Shirley Lindenbaum suggests, outbreaks of infectious disease represent an opportunity to examine the "relationships

[44] In the early 2000's, infectious diseases caused over 15 million deaths a year (Selgelid et al. 2006:1) and were causing an estimated 25 percent of global mortality in 2005 (Fauci et al. 2005:519); by 2008, World Health Organization data indicated that infectious disease had declined to 8,721,000 – but that infectious disease still caused 15.3 percent of global mortality totals (WHO 2011).

among cultural assumptions, institutional forms, and states of mind" (Lindenbaum 2001:363); they also provide a novel vantage point on the boundaries between natural and cultural or social phenomena. I appropriated the cholera outbreaks in Vietnam as a stepping-off point for study with these possibilities in mind: that they offer insight into the production of social suffering in a "global society," and that they also permit analysis of local political economic and sociocultural phenomena, including the apportioning of blame, the representation of victimhood and culpability, and the use of science to generate knowledge and ignorance as well as social and moral critique.

The anthropological study of disease is a strategy for drawing questions of biology, pathology, and epidemiology into conversation with social phenomena, and to acknowledge the potential of social factors to influence disease epidemiology, "despite the power of the biomedical model of disease and the increasing specificity of molecular and genetic knowledge" (Henderson et al. 2005:viii). Complicating scientific accounts of infectious disease and outbreaks, medical anthropologists have placed disease events in the context of diverse social and cultural frameworks, drawing connections between health outcomes and local and global histories of colonization and modernization; the impacts of political economic and ecological change; and processes of social stratification. Medical anthropologists have interpreted epidemics as phenomena affording vision into sociocultural phenomena that would otherwise remain obscure or inaccessible, arguing for the legibility of epidemics as indicators of social stratification, material inequity, and ecological disturbance (Singer 2010); as sites for the formation, corrosion, and negotiation of cultural meaning; as motivators of political contestation and social change (cf. Rabinow 1995). Further, medical anthropological research on infectious disease and outbreaks also has the potential to generate knowledge that can be applied to

interventions in health promotion, public health, and disease control (Pfeiffer and Nichter 2008). Critical, socio-centric perspectives on infectious disease can serve as an important corrective to alarmist, technocratic, and victim-blaming approaches in epidemiology and public health.

Critical Medical Anthropology

Critical medical anthropological research has contextualized the global rise in the prevalence of infectious disease as symptomatic of increasing global inequities in the distribution of power and resources, and has argued for the significance of ethnographic methods in documenting – and influencing – trends that are deleterious to the health of marginalized groups. This approach to understanding the social life of health and disease investigates the effects of political economic inequity on health and disease, drawing empirical connections between patterns of social stratification, inequality, and exploitation and the distribution of social suffering across bodies and populations (cf. Baer, Singer, and Susser 1997).[45] Notably, critical medical anthropologists have argued against literatures which posit the salutary effect of capitalism and markets on public health and health care seeking, and frame health as a "benefit of development" (WHO Commission on Macroeconomics and Health 2001). In the 1990s, as the logic of structural adjustment and austerity spread throughout the Global South, the tendentious association of privatization with health was particularly strenuously refuted by critical medical anthropologists. An edited volume by Kim et al. (2000) represented an important intervention in these debates: a collection of evidence from many countries

[45] Antecedents to critical medical anthropology can be found in the "social medicine" of the 19th century by German physician Rudolf Virchow and political philosopher Friedrich Engels, in the publications of 20th century health and social reformers such as Sigerist (Rosenberg 1992:262), and in the large and interdisciplinary literature on health disparities. In epidemiology, the influential Whitehall study demonstrated that mortality rates in the British civil service corresponded closely to the grade levels, with a clear "social gradient" in health observable from the lowest

demonstrating the deleterious effects of economic "development" on health outcomes and health services. In the same vein, anthropologist Paul Farmer has metaphorized the tendency of infectious disease to disproportionately affect the world's poorest and most vulnerable people as a "pathology of power" (Farmer 2005): collateral damage abetted by biology, but inflicted principally by the political economic status quo. A review by Nguyen and Peschard (2003) of the anthropological literature on inequality and disease discusses the hypothesized mechanisms that anthropologists have posited to explain the translation of social stratification and disparities of resources and power into unequal health outcomes.[46] Arguing against more reductive sociological, sociobiological, psychobiological, and material hypotheses, the authors suggest that diminished health outcomes and life expectancies in poor and otherwise subaltern communities result from the "embodiment of social hierarchy" and is "a form of violence" (Nguyen and Peschard 2003:447)

In a critical medical anthropological framing of global epidemiological patterns of morbidity and mortality, economic globalization appears not just as the spreader and accelerator of pathological microbes, as is typically represented in mainstream accounts of the reemergence of infectious disease. Rather, economic globalization is understood to impact health via macroeconomic effects that imply profound consequences for the health of communities and households. International, regional, and national economic events – such as the imposition of austerity programs on national economies by institutions like the World Bank and the International Monetary Fund, the neoliberalization of national economies, the retreat of the state, the reduction or privatization of social entitlements and welfare programs, and the decimation of

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ranks to the highest ranks (Marmot et al. 1978).

public health systems – translate into increased pressures on individuals and families to secure and defend their health and well-being. When local situations also feature sociopolitical trends such as stratification, political insecurity, deregulation – the multiplicative effect of such risks and pressures upon health is measurable and may be expressed through an increase in the incidence and prevalence of infectious disease, chronic disease, and premature mortality. Health systems also suffer myriad negative consequences under globalization, from limited access to pharmaceuticals (Whyte et al. 2006) to "brain drain" of trained health care providers (Record and Mohiddin 2006).

Cholera is a disease particularly well suited to theorization via critical medical anthropology, given its close epidemiological association to inegalitarianism in modern societies. Briggs and Mantini-Briggs frame cholera outbreaks in Venezuela in this fashion (Briggs and Mantini-Briggs 2004), as do Nations and Monte in their study of cholera in Brazil (1996); the latter identify the social roots of cholera as "poverty, low earning power, female illiteracy, sexism, lack of basic sanitation and clean water supplies, medical hegemony" (Nations and Monte 1996:1007). These studies, and others like them, originally represented the most significant frame for my research on cholera's reemergence in Vietnam, which appeared at the outset to be a throwback to historically prior iterations of inequality, dispossession, and violence. But as research proceeded, my assumption of a straightforward connection between increasing poverty and the return of cholera to Hanoi was complicated by the absence or distortion of data. While I still argue that the associations between cholera and inequality in globalizing, post-transition Vietnam are legible in a critical medical anthropological framework, this study and its

[46] Specific factors hypothesized to predispose poor and marginalized social groups to poor health outcomes range from stresses multiplied by the impact of racialized, gendered, and classed discrimination (Mullings 2005) to a higher likelihood of "adverse childhood experiences" (Felitti et al. 1998).

conclusions are not entirely positivist. Similar to anthropologist Diane Fox in her research on Agent Orange, I understand cholera as a phenomenon that cannot be fully understood via scientific representations, given the complex of political obstacles to documentating or resolving its significance.

As later chapters will suggest, the history of health, healing, and disease epidemiology in Vietnam help to structure the significance of cholera in the present day.

My conclusions about cholera's significance are based on analyses of cholera discourse, of cholera's moral meanings, and its articulation with Vietnamese tropes of "modernity" and "civilization"; I also use cholera as a way to understand environmental, political, and economic pressures as they are experienced in contemporary urban Vietnamese society.

Cholera: A Research Review

This section presents an overview of cholera, a diarrheal disease which has, throughout the modern period, become notorious for its capacity to spread rapidly, afflicting and killing large numbers of people at a time. In the following discussion, I address cholera in epidemiological, historic, and anthropological perspective and provide a review of the anthropological literature on cholera. I present competing theories of the disease's causes, drawing both on the debates of the 19th century on the etiology of cholera and the complex of cultural ideas regarding the cholera's Asian origins. I use scientific and historic literature to complement medical overviews of cholera pathogenesis and case studies with an interdisciplinary literature documenting cholera's social and cultural lives in diverse historic periods and cultural locations. I will also discuss the historic and contemporary cultural significances that accompany this disease, which is still strongly marked by stigmas of

premodern social formations.

Cholera has caused enormous morbidity and mortality from the 19th century to the present, compromising human health and stressing social institutions. During the 3rd pandemic between 1852 and 1860, cholera caused a million deaths in Russia; during the fourth pandemic, which lasted from 1863 to 1875, it spread throughout Western Europe and north America. Between 1877 and 1954, cholera caused approximately 22 million deaths in India and Pakistan, "with decadal cholera mortality rising as high as (…) 429,000 average annual cholera deaths" (Hamlin 2009:3).

Owing to its refractory, elusive character vis-à-vis medical science, its grotesque symptomatology, and its association with contaminated places and things, cholera has long been appropriated as a malleable and potent signifier. Western representations of cholera have often placed it in an epidemiological "savage slot" (Trouillot 1991) – standing in for modal stigmas of the West, often ascribed to social or physical failures of "the (colonial) "Rest." In the 19th century, cholera symbolized sin and vice, filth and poverty; in the 20th century, it came be associated with "dirt, ignorance, superstition, and the past" (Briggs 2005:278).

While cholera's referents are fungible, its iconic status has proven historically perduring. During the third pandemic in the mid-19th century, European research into the epidemiological and medical nature of cholera encompassed epistemological and ontological questions about the nature of disease and contagion in general. In this way, cholera came to stand in for all disease. In recent decades, researchers in the humanities and social sciences have similarly employed cholera as a heuristic device, a "disease with a face."

Despite advances in the understanding of cholera's etiology, the disease has not been controlled, let alone eradicated. Like other infectious diseases once assumed moribund as

modern science advanced, cholera is now often designated a reemerging infectious disease (cf. Wilcox and Colwell 2005). Zuckerman et al. note that cholera is unlikely to ever be eradicated, and is now "at least as prevalent now as it was fifty years ago" (2007:522). While international reported cholera levels in the mid-2000s fell below the prior decade's peak case counts, cases reported to the World Health Organization during 2004-2008 "increased by 24% compared with the period from 2000 to 2004" (WHO 2010).

The Modern History of Cholera

The global epidemiology of cholera is periodized by outbreaks that have diffused intensively across entire continents or regions to visit disease on hundreds of thousands or millions of people over a period of years or decades. These episodes of intensive, large-scale cholera contagion are called pandemics; as Table 2 shows, scientific consensus supports that either seven or eight[47] cholera pandemics have occurred since 1817. Though the subdivisions between these periods are, especially in the 19th century, somewhat vague (Blake 1994:293), over the course of the last two hundred years, cholera has diffused to every continent, and in some regions it has become endemic. Unique "times of cholera" have affected different nations and populations; by the mid-19th century, infection had reached every continent. To give an impression of the rate and scope of cholera's spread, during the first pandemic, disease broke out in India in 1817 and followed military and trade routes (McNeill 1976:268, Hamlin 2009:48) through the Middle East, Central Asia, Southeast Asia and East Asia, and Africa (Barua 1992:8). In 1829, cholera broke out in Russia and then traveled through Western Europe to arrive in North

[47] Though some authors claim an epidemiological history of only seven pandemics, Stewart-Tull (2001) suggests the Latin American outbreak might represent the beginning of an eighth pandemic. This was also the first time that the serotype *V. cholerae* O139 assumed pandemic proportions:, previous pandemics were of the more common O1

America, where it spread from New York to Philadelphia in two weeks (Colwell 1996:2026).

Pandemic	Time Period	Serogroup	Biotype	Affected Areas[b]
First	1817 to 1823	Vibrio cholerae O1[48]	Classical[a]	1, 2,3,5
Second	1829 to 1851	Vibrio cholerae O1	Classical[a]	1, 2, 3, 4, 5,6, 7
Third	1852 to 1859	Vibrio cholerae O1	Classical[a]	1, 2, 3, 4, 5, 6, 7, 8
Fourth	1863 to 1879	Vibrio cholerae O1	Classical[a]	1, 2, 3, 4, 5, 6, 7
Fifth	1881 to 1896	Vibrio cholerae O1	Classical	1, 2, 3, 4, 5, 6, 7
Sixth	1899 to 1923	Vibrio cholerae O1	Classical	1, 2, 3, 4, 5, 7
Seventh	1961 to Present	Vibrio cholerae O1	El Tor	1, 2, 3, 4, 5, 8, 9
Eighth (?)	1992 to Present	Vibrio cholerae O139	Single biotype	2

a Presumed.
b Affected areas: 1, Indian Subcontinent; 2, Southeast Asia; 3, Middle East; 4, Europe; 5, East Africa; 6, North Africa; 7, North American; 8, South America; 9, Indonesia.

Table 2. Eight Cholera Pandemics, 1817-Present. Source: Kavic et al. 1999:397.

Most recently, an outbreak of cholera in Bangladesh and India spread to Latin America in 1991 and inaugurated what some scholars have described as an eighth pandemic (Reidl and Close 2002), spreading from Peru to Ecuador, Colombia, Chile, Brazil, and Venezuela (Stewart-Tull 2001:586). In 1991, a record 596,689 cases of cholera were reported from 60 countries with a case fatality rate of 3.2 percent (Pacific Institute 2009).[49] The following decade witnessed an "unprecedented increase in the global burden of cholera" (Collins 2003). Graph 1 presents the global prevalence of cholera from 1970-2004, with a peak in the early 1990s and continuing high levels of disease indicating the beginning of the eighth pandemic or, as other authors suggested, the continuation of "a global resurgence of the disease that began in Indonesia in 1961" (Werner et al. 1997:2).

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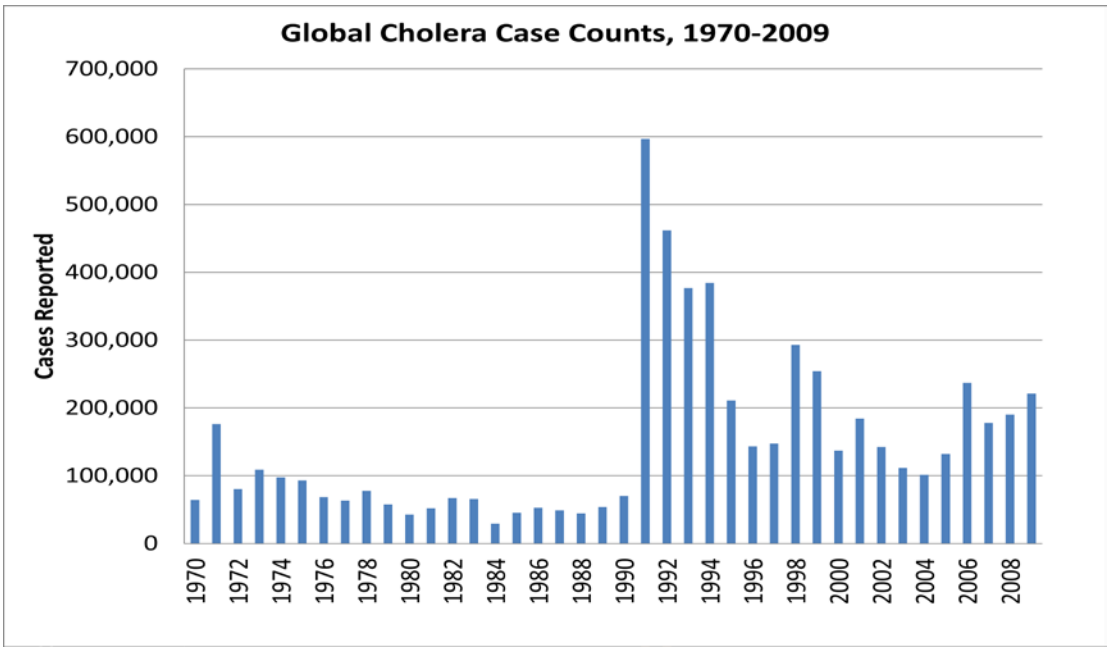
serotype.

[48] The *V. cholerae* O1serotype is subdivided into two biotypes, classical and *El Tor*. "*El Tor* first appeared in Indonesia and has since spread worldwide, replacing the classical strain as the leading cause of endemic cholera." (Zuckerman et al. 2007:522). *El Tor* is better equipped to survive in the environment, a feature which has assisted in its geographic spread and survival (Safa et al. 2008). In 1992, the new serotype *V. cholerae* O139 Bengal emerged in Bangladesh; it has now been isolated in India and Pakistan.

[49] Cholera cases and fatalities are also radically underreported: the World Health Organization (2003) estimates that one hundred times more cases occur than are officially notified, and extrapolates a figure of 3–5 million mostly unreported cholera infections occurring every year and 100,000 to 120,000 deaths (WHO 2010).



Graph 1. Global Cholera Cases Reported to World Health Organization, 1970-2009. (Sources: 2010: CDC, 2009: Pacific Institute and WHO, 2008: WHO, 2006: WHO.)

Cholera's Associations

On the regional scale, recent research indicates that cholera outbreaks and pandemic cycling have "pronounced seasonality" and are strongly associated with climatic fluctuations and hydrological fluctuations; seasonal peaks in cholera prevalence correspond to the ability of vibrios to propagate in warm temperatures. Ambiguity persists regarding how strongly climatic and environmental variables influence cholera epidemics. Some research has found positive correlation between cholera epidemics and climatic variables such as increases in sea temperature and air temperature and El Niño events.[50] The prevalence of cholera and other diarrheal diseases is also influenced by the respective poverty of world regions, given that poorer

[50] The June 2011 issue of the *Journal of the American Society of Tropical Medicine and Hygiene* was devoted to presenting recent findings on this issue, some of which make strong correlations between increasing global mean temperatures and the incidence of cholera. "'A mere one degree Celsius increase in the average monthly minimum temperatures was a warning sign that cholera cases were likely to double within four months'" (American Society of Tropical Medicine and Hygiene 2011).

regions typically suffer from a lack of improved water sources and basic sanitation. Kuhn et al. argue that "Sanitation and human behavior are probably more important risk factors than climatic variables" (2005:21).

Socially and politically mediated features of local situations also shape transmission patterns of cholera. Epidemics are associated with disturbances to social order, especially those which destroy or interrupt water and sanitary services, cause crowded living conditions with limited sanitation (Zuckerman et al. 2007:521), or result in environmental exposure to wastewater. Cholera has broken out during mass population movements, forced migrations, and refugee crises; it accompanies the infrastructural damage, demographic displacement, and social dislocation of war[51]; and it frequently occurs in aftermath of natural disasters such as earthquakes and floods. In the last decade, cholera outbreaks have accompanied political, economic, and ecological turmoil: conflict and collective violence (as in the Sudan 2006 and Iraq 2007-2008; see Kelly-Hope 2008); the aftermath of natural disasters (as in Haiti 2010); kleptocracy, failed statehood, and the "slow emergency" of structural violence.

At the scale of the individual and population, behavioral and biological factors also contribute to cholera risk. For example, household poverty may limit access to safe sources of water (Whiteford et al. 1993). Environmental exposure to wastewater or contaminated drinking water is an important risk factors; food sharing can also represent a source of contagion and secondary transmission. Malnutrition is an important risk factor for all forms of diarrheal illness and amplifies its potential fatality.[52]

[51] As in Bangladeshi refugee camps following war with Pakistan in 1971 – and in Zairean refugee camps following the Rwandan genocide, where 12,000 refugees died of cholera, with an overwhelmingly high case fatality rate of 48% (Guerrant 2003:403).

[52] In pediatric patients, the synergy between malnutrition and diarrheal disease is especially significant: malnutrition is "the underlying cause of 61% of childhood deaths due to diarrhea globally" (Walker and Black 2007:S73).

Despite the important distinctions between these different factors structuring cholera risk, most literature fails to delineate clearly between the relevant pathways of transmission. Literature on the global incidence and prevalence of cholera and other diarrheal diseases typically asserts that "hygienic conditions," "lack of sanitation," or "lack of development" cause the overrepresentation of these diseases in poor countries. These expressions are almost as vague as the 19th-century attribution of cholera to "filth" or "sin." Such claims reify "hygiene" and "sanitation" without defining them or identifying the pathways that cause the spread of cholera. Further, these explanations leaves out an account of "risk factors *for* risk factors" – that is, the macro-structural variables that increase the likelihood of a community's exposure and vulnerability to cholera.

The absence or presence of water and sanitary infrastructure only provides a partial account of the risk factors for cholera, which are complex, intersecting, and rooted in the social distribution of power and resources. These factors cannot be easily glossed in terms of "hygiene," "modernity," or "development," terms which persist in the literature on cholera despite their lack of analytic clarity or concreteness. Particularly, more precision is called for following the finding that even in resource-limited settings, water can be made safe for drinking and food preparation.[53] A more satisfactory understanding of the causes of a specific cholera

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Pediatric patients who survive a diarrhea episode are deprived of the nutrition necessary for growth and development and may be more susceptible to future episodes of diarrheal illness (WHO 2009).

[53] For example, research study confirmed that the use of sari cloth is a "simple, sustainable" method of filtering water to remove cholera pathogens for home use (Huo et al. 1996).

WHO 1993: "Health education activities, which should be intensified where there is a threat of cholera, should stress the importance of: avoiding raw food (exception: undamaged fruits and vegetables from which the peel can be removed are safe if hygienically handled); cooking food until it is hot throughout; eating food while it is still hot, or reheating it thoroughly before eating; washing and thoroughly drying all cooking and serving utensils after use; handling and preparing food in a way that reduces the risk of contamination (e.g. cooked food and eating utensils should be kept separate from uncooked foods and potentially contaminated utensils); and washing hands thoroughly with soap (or ash) after defecating, or after contact with faecal matter, and before preparing or eating food, or feeding children."

outbreak would draw on an empirically detailed, experience-near, and analytically broad account of the diverse social, environmental, economic, and political factors influencing the more proximate factors of food, water, sanitation, and infrastructure.

Symptoms and Causes

Despite the development of simple protocols for cholera prevention and treatment, cholera remains a potentially life-threatening affliction in their absence. Symptomatic cholera infection causes the passage of copious quantities of watery diarrhea, sometimes accompanied by vomiting, hours or days following exposure to the cholera pathogen. Fully symptomatic cholera is one of the few diseases that can be accurately diagnosed visually in an adult, as the accompanying profound dehydration causes the characteristic deathly appearance of sunken eyes, pale or bluish skin, lethargy, undetectable pulse, and puckered skin (Bennish 1994:237). Unlike tuberculosis patients, persons infected with cholera do not linger romantically; cholera is "not a disease that a person live[s] with" (Hamlin 2009:3). Without treatment to replace fluid volume, a cholera patient can die four to six hours after the onset of symptoms (Kavic et al. 1999:399). The disease comes on rapidly and without warning, striking a victim as if he or she had been, in the words of one 19th-century New Yorker, "knocked down by an axe" (Rosenberg 1987:3). Given the reduction of a healthy person to a barely recognizable and cadaverous body violently producing poisonous effusions, one of cholera's prevailing cultural meanings is the radical de-individuation of its victims. "Cholera is the kind of fatality that, in retrospect, has simplified a complex self, reducing it to sick environment" (Sontag 2001:37).

In early 19th century Europe and North America, prior to Pasteur's advancement of the germ theory of disease, religious interpretations of cholera prevailed. When cholera first made

landfall in those regions, it was popularly interpreted as evidence of the sinful behavior and physical degradation of the lower-class urban populations who were the first and most numerous victims. Cholera "could be both an intestinal pathogen and a character assassin" (Kavic et al. 1999:398); for an upper-class individual in the 19th century, to die of cholera "was to die in suspicious circumstances" (Rosenberg 1987:42). While the scientific understandings of the period emphasized the "predisposition" of victims of disease towards illness by their indulgence in risky behaviors or exposure to pathogenic environments, in the case of cholera, the theory of predisposition afforded a degree of slippage into religious accounts of culpability. The stigma attached to cholera was so strong that "most Americans did not doubt that cholera was a divine imposition" (Rosenberg 1987:43). Though by the 1860s, most American representations of cholera had come to articulate a more secular theory of disease aligned with the agenda of sanitary reform, some authors were still publishing Christian interpretations of cholera, framing the disease as a punishment sent by God to cleanse the earth by destroying its least worthy.

During early pandemics, cholera epidemics caused profound shock in Western European, Russian, and North American cities. This was especially so because these episodes were contemporaneous with the rise of "modern" social, political, economic, and urban forms, rocking the foundations of Western European and North American naturalized assumptions of superior physiognomy, climate, and civilizational forms and threatening "to reduce the West to the level of the East" (Delaporte 1989:98). Prior to the arrival of disease, Europeans had not entertained the notion that a disease associated with the squalor of uncivilized places could reach regions that boasted democratic states, progressive biomedical science, and urban industrial capitalism (Delaporte 1989). Elites framed cholera as a last trace of the pre-modern – and projected this impression onto the mostly poor victims of disease, their living environments, and their less

civilized styles of personal conduct. By contrast, the "dangerous classes" in 19th-century Paris and Palermo who were most affected by cholera outbreaks interpreted the disease as evidence of mass arsenic poisoning with genocidal intent (Hamlin 2009:82).

Not only did cholera provide fuel for class antagonisms, it provided the impetus for the rationalization and modernization of urban forms – which, in their execution, allowed ruling classes to arrogate political powers, to implement new forms of medical surveillance, and even to reshape the layout of urban neighborhoods: famously, following outbreaks of cholera in 1832 and 1849, Napoleon III authorized Baron Haussmann to redesign the plan of Paris along sanitary principles (Snowden 2010). The disease also revolutionized French techniques for the creation and use of detailed social statistics and give impetus to the creation of medical institutions, yielding "the beginnings of an invigorated, 'modern' set of welfare practices" (Rabinow 1995:30-31). Curiously, cholera is not only entangled with certain modern social forms, but has also provided the impulse for their development.

Explaining Cholera: Geographies of Disease

By the second pandemic, intense scientific debates about the causality of cholera in Europe were underway, fueling decades of contestation in research, prevention, and public health policy. The history of cholera science comprises a number of significant studies (cf. Ackerknecht 1948, Rosenberg 1960, Vinten-Johansen 2003, Johnson 2006), and the history of cholera research focuses nearly exclusively on the incremental accumulation of knowledge by European scientists into the causes of cholera, its treatment and prevention, and the social history of cholera in Europe and North America.

While multiple theories of the transmission of cholera were circulated in the 19th

century[54], the main opposing perspectives were anticontagionism, which asserted that cholera was caused by exposure to noxious airs and places; and contagionism, which posited that cholera and other diseases were actively transmitted between infected persons and healthy persons via the action of a disease particle or animal agent whose existence remained speculative. Given the scientific success of the latter paradigm, debates between contagionism and anticontagionism now appear as a curiosity of the history of medicine, with all of the scientific legitimacy accruing to what retrospectively appears to be the theory which is obviously correct. However, anticontagionist thinking has never really gone away, and continues to appear in both scientific and humanistic explanations of cholera and other diseases.

The theory that a specific, material agent is the source of disease was in fact a well-established theory by the 19th century. In the case of cholera, the theory of contagionism, controversial in the early 19th century, was preliminarily substantiated in 1848 by the work of surgeon John Snow, who hypothesized that a water-borne disease agent was the source of a series of outbreaks in London's Soho district. Famously, Snow's map of cholera cases and questioning of affected households led him to the conclusion that individuals who had consumed water from one water pump were likely to have fallen ill; neighbors who used water from another source had remained well. On the strength of this observation, Snow had the handle removed from the Broad Street pump; the number of new infections, already dwindling, fell off sharply. Though Snow lacked the microbiological evidence to prove the existence of a specific pathogen, his creation of a "cholera map" and the apparent proof of his hypothesis struck a

[54] These included "The Fermentation Theory," "The Excrementitious-Poison Theory," a "Kiehl's Theory" (which posited cholera as a "contagion first formed in the human organism itself"), "Johnson's Blood-poison Theory," "Theory of Ilisch – Decomposing Dejections," "Bryden's Monsoon Theory," "The Ozone Theories," "The Organic-Dust Theory of Von Gietl," parasitic theories, theories implicating a fungus, (Wendt 1885:119-125), and others –

significant blow for contagionism. Louis Pasteur's formulation of the germ theory of disease in the 1860s and the 1883 discovery of the cholera bacillus by the German physician Robert Koch[55] would ultimately cement contagionist arguments on the causation of cholera and other diseases as scientific truth.

While contagionist understandings of disease etiology have improved physicians' capacity to save cholera patients in what would once have been the last hours of their lives, anticontagionist premises may still prove valuable in cholera prevention, a research field that remains less well studied and less robustly theorized than cholera treatment. Ironically, contagionist understandings of cholera's causation and pathogenesis have supported the development of cholera treatment but not prevention, meaning that the rate of cholera infection remains high throughout many parts of the world.

Cholera as *V. Cholerae*

> Although extensive study has been devoted to it for considerably more than a century, the subject of cholera is confused. In the area where one might wish for and perhaps expect more certitude, that is, the nature and properties of the etiological agent, Vibrio cholerae, there exists the greatest degree, of uncertainty. An understanding of the epidemiology of the disease and interpretation of the effects of infection in the individual patient demand a much more precise knowledge of the biology of this microbial species and its protean manifestations. [SEATO Conference on Cholera 1961:331-332]

The majority of contemporary literature on cholera, as well as prevailing approaches to

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including the hypothesis that cholera could be caused by eating certain fruits (Coclanis 2008:174) or by a fit of rage (Hamlin 2009:27).

[55] Though the German physician Robert Koch is universally credited with the 1883 discovery of *V. cholera* and its role as the causative agent of cholera (Faruque et al. 1998:1302), the Florentine scientist Filippo Pacini had published "Microscopical Observations and Pathological Deductions on Cholera" in 1854, describing the comma-shaped bacillus he discovered in a histological examination of a cholera victim's intestinal mucosa and articulating its relationship to the disease. While Koch was apparently unaware of this publication, his work recapitulated Pacini's findings, also arguing that cholera was a contagious disease, and that 'kommabazillen' were its contagious agent. Koch's kommabazillen were later renamed *V. cholerae* in honor of Pacini's earlier work (Kavic et al. 1999:397).

cholera treatment, privilege research following a contagionist framing of the disease's etiology. Almost without exception, medical, biological, historic, and epidemiological literature presents cholera as caused primarily or exclusively by simple bacterial infection. To browse this literature is to encounter and re-encounter key terms of the biomedical idiom established by the work of Pacini and Koch: namely, that cholera is an intestinal infection caused by the bacterium *Vibrio cholera* O1, a bacterium that appears as a curved rod with a single polar flagellum under magnification. *V. cholerae* grows under aerobic or anaerobic conditions in alkaline environments between pH 8.0-9.5 (Zuckerman et al. 2007:521). Infection in a host occurs when a dose of *V. cholerae* is consumed sufficient to override the counteracting effect of digestive acids and bacteria colonize the lining of the small intestine. Enterotoxins stimulate water and solute secretion, resulting in the loss of a high volume of water and electrolytes. Cholera toxin is a bacterially precipitated poison, and symptoms of cholera infection have sometimes been interpreted as an indication of poisoning.

The most common pathways for cholera transmission are consumption of drinking water that is contaminated by feces containing *V. cholerae*[56] and food that has been washed in or prepared with contaminated water, or handled by an infected individual (Ackers et al. 1997:212). Transmission via person-to-person contact is rare. Most studies claim definitively that humans are the only known host for cholera vibrios (Kavic 1999:393) and that besides shellfish and plankton, there are no animal reservoirs for cholera (Sack et al. 2004:224).

[56] A modal scenario for the development of a cholera epidemic is the contamination of a water source by the fecal matter of an individual infected with cholera. This transmission pattern was the cause of the 1854 outbreak in Soho: the anecdotal originator of the outbreak was a mother who washed her sick infant's diapers in a bucket, then poured the wastewater into a cesspool that permeated a well, which in turn fed the Broad Street pump (Johnson 2006:178);

Scientific Uncertainty

Despite the scientific consensus for a contagionist paradigm in explaining cholera transmission, now established for over a century, the elusive qualities of cholera's ontology continue to complicate the project of concretizing a scientifically meaningful framing of the nature, the behavior, and the effects of both *V. cholerae* and cholera. An ontological reframing of cholera continues to the present day, both humanistically in interventions that seek to represent cholera's association with social forms, political processes, and economic arrangements, and scientifically in interventions that contextualize *V. cholerae* and cholera outbreaks in association with environmental factors and trends.[57] As both of these research strands recognize, cholera is entangled with factors at multiple geographic and temporal scales, many of which have nothing to do with the physical process of infection and contagion. More than just a simple vibrio, cholera can be conceptualized as an "assemblage" (Deleuze and Guattari 1980) dispersed across a network of associated subjects and objects. Conceptualizing cholera in what I term a "post-contagionist' paradigm acknowledges both the complex inputs to cholera epidemiology – historic, environmental, political economic, and sociocultural as well as biomedical – and the enduring appeal of anticontagionist logics of disease.

Anticontagionism

In the absence of microbiological evidence to support the contagionist hypothesis, the

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Prashad suggests that "sewage from the privy vaults" was the culprit (Prasad 1994:251). Ultimately over 600 people were infected and died (Snow 1854:48).

[57]Studies by the microbiologist Rita Colwell (1996) have demonstrated that *V. cholerae* can survive in association with zooplankton in marine environments, and assume a dormant state when conditions are unfavorable for growth and reproduction. When hydrological and climatic circumstances enable zooplankton colonies to bloom, cholera outbreaks in human populations become more likely. By framing the environment – and, latterly, the global climate –as contributing factors to the cyclic outbreak pattern of epidemic cholera, Colwell's research has made room for a neo-anticontagionist perspective, complicating the established understanding of cholera etiology and epidemiology.

existence of a *contagium animatum* remained speculative. The contagionist model of cholera etiology was challenged by proponents of an "anticontagionist" model of disease causation that foregrounded the role of place and environment; controversies regarding the cause of cholera (and other infectious diseases) continued through the late 19th century. Even John Snow's *On the Mode of Communication of Cholera*, the text solidifying the case for contagionism, acknowledged in passing the significance of environmental and social conditions in fostering the spread of cholera, albeit with a caveat of the limited utility of investigation into these factors:

> It would occupy a long time to give an account of the progress of cholera over different parts of the world, with the devastation it has caused in some places, whilst it has passed lightly over others, or left them untouched; and unless this account could be accompanied with a description of the physical condition of the places, and the habits of the people, which I am unable to give, it would be of little use. [Snow 1849:1]

Anticontagionists, though falling into differing camps regarding the specific relationship between place and disease, typically argued that cholera (along with other epidemic diseases, including especially smallpox and yellow fever [Ackerknecht 1948]) was borne by "miasma" – a noxious atmosphere emanating from a source such as a body of stagnant water or a filthy encampment. Noxious places were understood as putting human health at risk via the action of "bad airs" – a humoral perspective on disease etiology, consistent with ancient principles of Hippocratic medicine. Anticontagionists believed that insalubrious environment caused disease in the following way: "Once inhaled, the causative agent acted upon the blood to disrupt the body's internal balance, resulting in fever and other symptoms of each epidemic disease" (Vinten-Johansen et al. 2003:172).

Anticontagionist perspectives, though aligned with politically progressive tendencies in their home context of 19th-century England, tended to conflate non-Western places with disease in a common-sense formulation which now appears derogatory and unscientific. In Wendt's

1885 "Treatise on Asiatic Cholera," a Dr. Barnes recounts the conditions at Jessore in 1817, the origin point of the first pandemic. His interpretation of the relationship between environment and disease exemplifies the reactionary tendencies of anticontagionist perspectives applied to non-Western people and places:

> Putrid exhalations from the constant and rapid decomposition of animal and vegetable matter and the use of unwholesome water, are the sole causes [*of disease*]. The atmosphere of Bengal is close, heavy, and moist; and the thermometer never lower than 75° F from March to November. (…) The huts of the poorer natives were surrounded with every kind of nastiness as well as stagnant water, and the exhalations from them were at times almost insupportable. [Wendt 1885:6]

In this view, cholera is framed almost as self-evident in a tropical environment, and a general description of the pathogenic Asian climate is sufficient to conclude that local miasmas precipitate disease. Though anticontagionists are often framed as progressive by contrast to more conservative and reductionist contagionists, anticontagionism also accommodated positions which appear unsavory today. A spirit of domestic Orientalism often characterized anticontagionist perspectives applied to European outbreaks: the cholera outbreaks in England of the early 19th century were not "imported" from India, but arose spontaneously from local social conditions – assumedly similar to those in Bengal (Ackerknecht 1948:13).

"A Monster from the East"

While the micro-scale factors influencing the existence and communication of cholera were a source of scientific disagreement in the 19th century, at the largest geographic scale, virtually all lay and scientific accounts of the global dissemination of cholera, anticontagionist or contagionist, held that cholera comes from South Asia. Throughout the 20th century and up to the present, literature on cholera has stated that the disease, long endemic in the Indian

subcontinent, did not begin to affect other global regions until the early 19th century. If cholera's arrival in Europe was sudden and shocking, opening modern urban life to new perils, European writers represented cholera in South Asia as a part of the state of perpetual and static pathology that pervaded the subcontinent.

This view of cholera is encapsulated in the epithet "Asiatic cholera" (Singh 2005). Though that term has passed out of fashion, some accounts of cholera's history continue to employ an overtly Orientalizing tone, portraying a malady whose roots are entangled with the Near East's mystic, timeless past. For many authors, it is a commonplace to write that cholera has been endemic in South Asia from the disease's prehistory to the present day; as one historian notes, "It has become almost habitual to write that all the cholera pandemics of the 19th century originated in deltaic Bengal" (Singh 2005:69). Authors advancing this claim rarely cite sources: the "fact" of cholera's ancient Indian endemicity is the artifact of reiteration rather than evidence. As Christopher Hamlin argues, 19th century scholars effectively Asianized the disease, basing a theory of South Asian origins on speculation rather than scholarship: "The conclusion that cholera was as ancient as Asia followed, but had little to do with the study of, classical Indian medical texts" (Hamlin 2009:38).

This assumption of perpetual cholera infection in south Asia has prevented a rigorous historicization of cholera in that region as well as globally. Though the "seven (or eight) pandemics" paradigm represents the most standard way for epidemiologists to frame the global "time of cholera," several objections can be leveled at the periodization provided in Table 2, "Eight Cholera Pandemics, 1817-Present." First, some authors dispute the commonly asserted claim that the cholera pandemic of 1817 constituted the disease's first European appearance. Ancient accounts of cholera rely on documentary, not microbiological, evidence; given the broad

and general character of symptoms that may indicate cholera infection, it is difficult to determine whether these accounts should be considered evidence of "true cholera" caused by *Vibrio cholerae* infection. Therefore, the "first" cholera pandemic in 1817 may have been preceded by prior diffusions of cholera outside the South Asian region commonly considered the malady's "home" (Barua 1992:1). Historian of epidemiology C.E.A. Winslow argued that cholera counted among diseases that "assumed epidemic proportions" in 15th-century Europe (Winslow 1943:119); René Dubos also argued for cholera's presence in Europe prior to the 19th century (Barua 1992:2) – opinions that Howard-Jones (1974:318) qualifies as "preposterous," arguing that these authors mistook European diseases with similar symptoms for "true cholera." However, Hamlin (2009:49) defends the supposition that European cholera may indeed have been true cholera, citing an account of "the non-bloody London dysentery of 1670" whose effects are extraordinarily similar to classical cholera symptoms, as one among many cases of European "cholera-like epidemics" from the 16th to 18th centuries (2009:32-33). Hamlin also demonstrates that a long history of ethnocentric framing of similar diseases in Europe and Asia led to the debatable conclusion that cholera has always been endemic in Asia, with no reservoirs elsewhere in the world prior to 1817.

> European outbreaks are excluded on lack of epidemicity; Asian sources are included without evidence of it. Epidemics that early modern Europeans called cholera, which had the symptoms of cholera, were (are) varieties of gastroenteritis. Ambiguous gut diseases from south Asia are presumed to be the work of *Vibrio cholerae*. [Hamlin 2009:49]

Supplying more convincing evidence of pandemics that have been overlooked in the received histories of global cholera, Hamlin suggests that European ethnocentrism, abetted by ambiguous and contradictory definitions of cholera, may effectively have disappeared a South Asian cholera pandemic that began in the late 18th century, almost fifty years before the "first" pandemic.

Secondly, the multiple, historically shifting, and ambiguous definition of the word "cholera" adds another level of complexity. "Cholera" is an old term that European writers originally used generically to designate "ill-defined sporadic gastrointestinal derangements of diverse etiology" (Howard-Jones 1974:317). Therefore, when "Cholera Asiatica" arrived in Europe in the early 19th century, the choice to identify by the term "cholera" caused controversy, given that some scientists believed that the disease to be entirely novel and different from the endemic, but medically nonspecific "cholera" of European medicine (Howard-Jones 1974:317). Over the 19th century, nomenclatures for cholera types and subtypes accumulated, confused the epidemiology and history of "true" cholera. Over the history of developing nosologies of "cholera," Europeans designated the most malignant strains of cholera-type illness as Cholera Asiatica, as distinguished from indigenous "choleras" such as "Cholera Nostras, Cholera Morbus, British, English, European, Biliary or Summer Cholera" (Singh 2005:69-70).

European writers' tendency to associate virulent "true" cholera with south Asia, while creating a superficial clarification in histories of the disease and its global spread, covers over complexity in the history of cholera and forecloses interpretations of cholera's significance that would implicate the principles of contemporary political, economic, scientific, or geopolitical order. While 19th-century debates around the causality and contagion of cholera and infectious diseases had not yet established whether cholera represented an imported disease strain or a local pathogen that had suddenly assumed a new virulence, the tendency to displace blame onto other world regions, cultures, and populations helped reassure Europeans' assumption that their lifestyle and climate were salubrious while others were degraded (cf. Delaporte 1989:1-2).

To demonstrate how a number of speculative assertions regarding disease epidemiology have come to be common sense is also to demonstrate how Eurocentric conceptions of

contaminated, contagious colonial Others and unimpeachable European bodies, spaces, and behaviors have played an integral part in the construction of cholera's cultural significance. As David Arnold writes in his history of medicine under colonialism, "Cholera's Indian origins, and its almost global dissemination through the pandemics of the 19th century, made the disease a convenient symbol for much that the West feared or despised about a society so different from its own" (Arnold 1993:183). In the 20th century, as cholera continued to diffuse globally, the disease continued to be a moral symbol, linked to "destitution and squalor, overcrowding, the recycling of infected clothing, defective sewage treatment, unwashed hands, contaminated produce, and impure water" (Sawchuk 2010:97).

Modernity as the Time of Cholera

Related to the idea that cholera is a disease of south Asian antiquity is the anticontagionist association of cholera with a lack of civilizational advancement, a quasi-explanatory model that continues to be invoked almost automatically in accounts of the scientific, historic, and cultural significance of the disease. In the following section, I draw out these concerns in informal and scientific representations of cholera's significance: cholera's relationship to time and modernity, extensible to the role of cholera in different world regions, "developed" and less so. I draw on a well-known representation of cholera in the 19th-century colonial periphery, Gabriel Garcia Marquez's magical realist novel *Love in the Time of Cholera* (1988), whose events include the romantic heroine Fermina Daza passing over her young lover Florentino Arizo to marry the aristocratic Dr. Juvenal Urbino, who has returned from his studies in Paris to their home country in the Caribbean. Establishing a gothic background to their local world of strictly policed social distinctions is a cholera epidemic, which claims victims from all

social classes "with no regard for color or background" (Marquez 1988:112). Struggling to advance the cause of sanitary reform in his hospital and beyond, the young doctor regards the squalor of his city with a horror filtered through a recently acquired European education and his own family history:

> Cholera became an obsession for him…he had found it difficult to believe that only some thirty years before, it had been responsible for more than one hundred forty thousand deaths in France, including Paris. But after the death of his father he learned all there was to know about the different forms of cholera, almost as a penance to appease his memory… So that when he returned to his country and smelled the stench of the market while he was still out at sea and saw the rats in the sewers and the children rolling naked in the puddles on the streets, he not only understood how the tragedy had occurred but was certain that it would be repeated at any moment. [Marquez 1988:114]

Guilt and repugnance, tragedy and obsession, and the certainty of future disaster: the affect of cholera is dolorous, grim, and meditative, with a measure of rhetorical excess to amplify the sensibility of doom. In contradistinction to the uncertainty that terrorized Europeans when cholera first appeared, Dr. Urbino is sure about the medical details of the disease, and his premonition of cholera's itinerary is founded on the bitterness of past loss.

Themes of time wind through *Love in the Time of Cholera*, establishing a textured relationship between scales of chronology, temporality, and the paradoxical development of disease alongside narrative, contamination alongside love, and plague alongside "modernity." The passage cited above reveals how the doctor is affected by the return of memories of loss. Drawing recollected suffering into conversation with the present sentiment of mourning and the anticipation of future disaster, the doctor's stream of dark emotions is coproduced with his rational contemplation of cholera: its medical typology, its foothold in degraded urban environments, and its power to destroy. Cholera metaphorizes contamination: popular and scientific thought of the 19th century held cholera to be continuous both with material waste and

moral corruption. The time of cholera for Dr. Urbino's home country, with its puddles, rats, and stench, is the near future. Everything that can be seen from the deck of a ship outside the city's harbor is framed as vulnerable to the pathological consequences of deferred modernity.

The formulation of cholera vis-à-vis modernity continues to be invoked in scientific accounts of cholera. Present-day representations of the early 19th-century "time of cholera" tend to characterize the period as marked by inaccurate, latterly disproven scientific theories and inadequate measures for public sanitation. These accounts represent the rise of modern science and sanitary reforms as order and progress – absent the robust relationship between modernity and contamination, violence, and decay that animates *Love in the Time of Cholera* (Fahy 2003). Contemporary documents on cholera also implicitly suggest that the sanitary conditions of nineteenth-century Europe are found today in "less developed" nations, where, it is often implied in an idiom of civilizational difference, the conditions of modernity are either not widely available or have yet to arrive.

In this view, the time of cholera epidemics is the *telos* of crowding, squalor, and contaminated water sources, currently instantiated in "less developed" nations. Although "imported" cases of cholera do occasionally surface in wealthy countries, most accounts tend to assert that cholera occurs only sporadically in "modern" or "developed" countries. The historical observation that the military, commercial, and transportation networks of the modern age were the original precipitating causes of the global dissemination of cholera, a purportedly anti-modern, atavistic disease, remains a historical footnote (cf. Vann 1999:342-343, Rabinow 2002, Smallman-Raynor and Cliff 2004). Characterizing cholera as opposite to modernity is *de rigueur* in contemporary journalistic or scientific accounts of the disease, as in the following passage describing the first cholera pandemic:

> [Cholera] (…) is extremely contagious in communities without adequate, modern sanitation, as most of the world was in 1817 when it first left India. News of its spread and impending approach often sent panic into entire nations, and health professionals were largely at a loss as to how to treat or prevent it until modern epidemiological and laboratory techniques were developed later in the century [US National Institutes of Health 2007].

As this synopsis suggests, cholera both prevails in conditions that lack "modern" medicine or science, and is itself a "modern" phenomenon. Inadvertently, this characterization acknowledges the dualistic quality of modernity, marked both by the virtues of technical progress, scientific accomplishment, and social reforms and less optimistic modern phenomena: enclosure, proletarianization, urbanization, alienation, environmental degradation, social stratification, and the increasing social, economic, and phenomenological pressure on the rhythms of work and life. Accounts of the global dissemination of cholera in the 19th century recapitulate Harvey's (1990:240) formulation of "space-time compression."

> The increasing speed and ease of travel and the increasing number of travelers probably contributed to the pandemic spread of cholera. (…) Accounts of the spread of pandemic cholera in the 19th century are largely summaries of apparent transfer from place to place by steamship. The 20th century, with more rapid surface transportation and the advent of air travel, has brought the potential for dissemination of epidemic strains around the world in days or months rather than the years it used to take in the past. [Blake 1994:293]

Cholera was the synergistic beneficiary of nineteenth-century colonization and globalization, and followed troops and trade routes both into and out of regions where cholera was "endemic." Charles Rosenberg notes the connective tissue between local conditions of insanitation, international and inter-regional transportation networks, and disease: "Cholera could not have thrived where filth and want did not already exist; nor could it have traveled so widely without an unprecedented development of trade and transportation" (Rosenberg 1987:2). Arriving in Europe in the second pandemic, cholera found a niche where human populations had been concentrated into cities, and especially where the working and poor classes made their

homes in “the worst houses in the worst quarters of the towns” (Engels 1844:26).

Therefore, cholera is a paradoxical signifier, associated with the presumed backwardness of pre-modern life. However, its global rise and spread is also associated with the flows of bodies, goods, capital, and bacteria: phenomena associated with the rise of free trade, urbanization, and colonialism. Critical perspectives on cholera epidemiology posit the disease not as modernity’s opposite, but as its sinister double. In this view, the rise of industrial capitalism in 19th-century Europe and North America fostered class stratification and presided over the rise of a densely accommodated urban proletariat, but failed to protect the health of the laboring classes. The time of cholera in Western cities was marked by a pathogenic internal diachronicity: modern in technological innovation, connections to other world regions, and accumulation by the owning class; pre-modern in terms of hygiene, urban development, and social protection. Threatening everyone – but affecting the poorest first and most fatally – cholera remains a bellwether of “uneven development” (Smith 1984), a consequence of capital’s pressure on biological and social conditions.

Historicizing Cholera in Vietnam

Despite the relatively greater burden of cholera and diarrheal diseases on colonial and post-colonial populations in history and the present day, epidemiologists, microbiologists, physicians, and historians have only occasionally made forays into the history and social life of this profoundly significant disease outside Europe and North America (Rabinow 1995). A robust interdisciplinary literature treats cholera’s scope and cultural significance in individual European countries and North America (cf. Bilson 1980, Kudlick 1996, Snowden 2002, Johnson 2006, Gilbert 2008, Rosenberg 1987), drawing on medical, scientific, political, technical, and literary

sources. However, records of cholera epidemics in colonial societies often fail to provide equivalently rich, qualitative accounts. If cholera was a "world-making disease," reshaping social "norms and forms" in 19th century France (Rabinow 1995), what was its significance in colonial contexts?

This section responds to Inhorn and Brown's call that medical anthropologists "reconstruct infectious disease histories," (1995:18) attempting to build the beginnings of a history of cholera history in Southeast Asia and specifically Vietnam. All of Southeast Asia has historically been "liable to cholera epidemics of a highly explosive nature" (Swaroop and Pollitzer 1955:335). The European designation of cholera as an "Asiatic" disease and the significant epidemiological burden of cholera (or cholera-like illnesses) on Southeast Asian populations notwithstanding, accounts of the sociocultural impact of cholera there are limited.

Prior to colonization, cholera epidemiology in Vietnam was influenced by regional expressions of cholera pandemics, beginning with the first pandemic in the 1820s. Then and subsequently, cholera in Thailand often caused cholera outbreaks in Indochina. Beginning in 1860, France dispatched armies to the region, allegedly to protect endangered missionary interests in Vietnam, Laos, and Cambodia. In the early 1860s, the French won control over a large area of southern Vietnam, which they subsequently called Cochinchina. In 1863 conquest continued to Cambodia; in the 1880s central Vietnam ("Annam") and northern Vietnam ("Tonkin") also came under French control, followed by Laos in 1893. Annam, Cambodia, Laos, and Tonkin were protectorates, with local laws prevailing in most instances, while Cochinchina was a colony, ruled by French law. The Union of Indochina, declared in 1887 and ultimately comprising five countries, was administered by a Governor General. While the ultimate geostrategic goal was, as Murray argues, "a passable route into China's Yunnan

province, whence the French merchant houses hoped to gain control over the Yangtze valley" (Murray 1980:55), subordinate goals also included the local expropriation of land, the extraction of resources and labor, and the installation of local and regional infrastructure, both material and governmental, to expedite the removal of wealth from Indochina.

Military conquest in North Vietnam was associated with a cholera outbreak in the mid-1880s; the inequity, hunger, and urban crowding and squalor associated with the colonial period provided a hospitable environment for the disease during French occupation. As the colonial period progressed, the immiseration of the Vietnamese population colluded with vulnerability to crop failure as well as the colonial state's resource mismanagement to increase the frequency of cholera outbreaks and amplify fatality rates.

In the colonial as well as the dynastic period, cholera inspired religico-medical strategies of resort among the mostly immiserated and rural population. In urban areas under French rule, the prevention and treatment of cholera, both via biomedicine and the establishment of sanitary cordons, was often carried out in an idiom of militarization and repression. However, Vietnamese assumption of control over biomedical institutions, alongside Vietnamese scientific initiatives in vaccine development and the success of sanitation measures in accomplishing disease eradication, made cholera eradication symbolic of nation's scientific progress and modernization in the Democratic Republic of Vietnam.

Cholera in the Dynastic Period

Although there is debate as to whether true cholera existed anywhere in the world before the first recorded pandemic in 1817, modern-day histories of Vietnam cite epidemics of cholera-like diseases beginning in the early precolonial period. Between 196-180 B.C., according to

Keith Taylor, "a cholera epidemic ravaged the army of Han China's Empress Lü, who had sent forces against Zhao Tuo's kingdom of Namyueh (Nam Việt)" (Taylor, K. 1983:24). Chapuis cites an episode of cholera in the 13th century, when Mongol troops in Bắc Giang suffered disease alongside a tactical defeat by military commander Trần Hưng Đạo, and notes a more general cholera outbreak in 1774 (Chapuis 1995:84,137).

By the 19th century, pandemic cholera reached diverse world regions, including Southeast Asia. Sources suggest that cholera represented a periodically serious burden in Vietnam. Chapuis states that 864,000 cholera deaths occurred between 1820 and 1850 (Chapuis 1995:197). The first cholera pandemic alone (1817-1823) may have affected Vietnam more than even this extremely high mortality rate suggests: in 1821, twenty percent of the names were removed from the lists of mandarins. Extrapolating from this information, Popkin suggests the first cholera pandemic may have extinguished millions of lives in Vietnam (1979:113). Mortality during the second pandemic (1829-1851) in Vietnam was also high: in 1849, cholera killed 600,000 throughout Vietnam (Popkin 1979:xvi), and Barrett[58] suggests that an 1850 epidemic caused 2 million cases of cholera, a datum substantiated by the Vietnamese Ministry of Health (Barrett 1982:17, MOH 2007:12).

Cholera in the Colonial Period (1860-1945)

Disease epidemiology in Vietnam is documented by French data beginning in the 1880s, but the reliability of these data sets is questionable; even population counts in French Indochina are "of very poor quality" (Hirschman 1994:393). French records of disease morbidity and mortality in the Vietnamese population are also likely less than totally reliable. Despite this,

numerous sources suggest that cholera was among the most significant disease burdens in Vietnam. It broke out in cities as well as in the countryside, both in association with Southeast Asian pandemics and disruptions to political, economic, and social order. During French conquest, cholera followed troop movements; latterly, outbreaks were associated with the modal institutions of colonial rule: prisons, work camps, urban slums, and military conscription. Throughout the colonial period, cholera was the leading cause of deaths in Vietnamese hospitals (Guénel 2004:1).

Citing the research of Sheldon Watts (1997) on the British colonization of India, which created "the necessary conditions for cholera's shift from an endemic to an epidemic disease" Vann notes that parallel factors were at work in French Indochina: the impoverishment of the local population, the movement of troops and camp followers across a large area, and the connection of colonial and European populations through faster means of transportation (1999:342). Vann argues that cholera was an unintended beneficiary of these transformations, and that "in the study of European imperialism, cholera deserves special mention as one of the diseases which took advantage of the new colonial context" (Vann 1999:342).

French Conquest and Cholera in Indochina

From the very beginning of the colonial period, cholera was a modal disease in Vietnam, associated with a wide variety of French economic, infrastructural, and populational interventions. Military actions by the French to capture Vietnamese territory coincide with cholera outbreaks, beginning with the 1858 Siege of Tourane (Đà Nẵng): though military

[58] Overlooking the impact of the first cholera pandemic on Thailand and Vietnam in the early 1820s, Barrett also incorrectly states that cholera epidemics have affected Indochina since "the second half of the nineteenth century" (1982:17).

conquest was initially swift, the invading army was affected by cholera, dysentery, scurvy, and typhus. The impact of cholera on the Vietnamese population at this time is not documented, but a general epidemic took place in 1865, under Tự Đức, the fourth emperor of the Nguyễn dynasty. A second "disastrous" cholera epidemic came on the heels of the French pacification of Tonkin in the 1880s, affecting thousands of European troops as well as Vietnamese soldiers and civilians (Vann 1999:317). Vietnamese morbidity and mortality is not recorded, but Malarney suggests that cholera spread rampantly as a consequence of the presence of French troops (2007:49).

Cholera recurred in occupied Vietnam in summer and autumn 1885, abetted by the French command's neglect of quarantine protocols, and killed more French soldiers than had died in the nine months of the Sino-French War. Some 1,850 garrisoned French soldiers, as well as uncounted "thousands" of Vietnamese, died in 1885, owing to the lack of a public health system that could prevent or treat cholera (Malarney 2007:31): in August, 25 to 30 soldiers died of cholera daily (Vann 1999:317), and in December, hundreds of French troops died of cholera and other diseases during a sweep of the Bai Sai region near Hanoi (Huard 1887:1094-1096; Thomazi 1934:277). Overall, illness caused "catastrophic mortality" among the troops during the 1885 French military campaign, among the troops[59]: some 2,000 casualties, or approximately ten percent of the force (Vann 1999:65).

When cholera returned in May 1886, thousands of patients overwhelmed the small hospitals the French military had established in Hanoi. Death rates among the affected soldiers in an outbreak in the French army were reported as near 50 percent (MOH 2007:12). Cholera epidemics affected troops every spring from 1885-1888, with a total of 3,300 casualties reported

[59] The respective proportion of deaths caused by disease during this period was astonishingly high. A French doctor working in Indochina estimated that "from 1883 to 1889, there had been fourteen times more casualties caused by diseases than the mortalities occurring on the field of action" (Thuy Linh Nguyen n.d.:9).

for the period (Vann 1999:319). The death toll was fourfold the number of European soldiers killed by the enemy during the conquest and pacification (Vann 1999:317). Michael Vann believes that French troops were the "likely vectors" bringing cholera to Tonkin in 1884, and argues that the expeditionary force "definitely contributed to the diffusion of the disease throughout the region after its arrival" by introducing mass transit systems in the form of railroads and increased sea-going trade, inadvertently making Hanoi a "referral center and concentration point for contagious disease" (Vann 1999:342-343). This is a reasonable hypothesis, given that from 1884-7, Paris, Toulon, and Marseilles were suffering the effects of the fifth cholera pandemic, as were neighboring Italy and Spain (Barua and Greenough 1992:14).[60]

Cholera continued to affect Tonkin after conquest. In 1887, the *New York Times* noted the French troops in Tonkin were again suffering from cholera; in 1888, an outbreak of cholera in Hanoi province claimed 1,800 lives between April 18th and May 9th – noting that "in reality the number of deaths is higher because many people did not inform the mandarinate when a family member died of an epidemic disease" (Malarney 2004:28). In 1896 the *Times* reported that famine in Tonkin, caused by the prior year's drought, threatened to inaugurate a cholera outbreak:

> Last year the rainfall was so meager that this year's harvest is a failure, and, as the Annamites are improvident, living from hand to mouth, the distress is now very great. The parents are selling their children for a few cents, and pillage is rife. [New York Times 1896]

[60] Publications of the period reference the "Tonquin cholera" (and also, in France, a "chronic cochinchina diarrhea" [Neill 2012:62] as if it were a medically unique – and uniquely pernicious – strain of the disease, or a sub-variety of the (equally specious) "Asiatic cholera." In 1884, the French city of Toulon experienced an outbreak of cholera that was, as one journal speculated, transmitted by an auction of the clothes and possessions of soldiers who had died of cholera in Tonkin and Cochinchina, where, it was said, "cholera always exists more or less." (Ohio State Eclectic Medical Association 1884:389) In Anglophone sources, however, the "Tonquin cholera" was represented as having been imported into Europe by the French (cf. New York Medical Journal 1887:589).

While the lurid detail of child-selling seems potentially spurious, the toll from cholera in some regions of North Vietnam at the turn of the century was very high.[61] Improvidence on the part of the peasantry, however, was not the cause: high rents and high taxes of the French colonial administration, levied at rates multiple times higher than those of the Nguyễn dynasty, left the rural population without cash or food reserves in case of crop failure or natural disaster (Ngô Vĩnh Long 1991:68). During a subsistence crisis in 1915, cholera swept through work camps where impoverished Vietnamese were interned (Nguyen-Marshall 2005:244-5, 2008:37); it also affected colonial prisons in the late 19th and early 20th century, where "high rates of death and disease in colonial prisons were doubtless owing to a combination of poor food, inadequate sanitation, unresponsive medical services, overcrowding, and overwork" (Zinoman 2001:96).[62] Beyond the predictably negative epidemiological repercussions of colonialism's repressive institutions, French imperatives to modernize the built environment also functioned as a circulation system for infectious disease. Clearing forests, building railroads, increasing sea trade, encouraging cash cropping, and driving urbanization boosted the likelihood that diseases would be communicated rapidly:

> (…) As the colonial economy expanded, a new epidemiological situation arose, and other diseases became significant. The rapid growth of urban centres, especially in the delta region, and European methods of building, often carried out hastily and without consideration, brought about serious sanitary problems. In particular, a series of diseases linked to water supply, and tuberculosis, became increasingly frequent. [Marcovich 1988:112]

[61] For example, in 1895-1896, an epidemic in Hưng Hóa near Hanoi followed a drought that sparked the loss of three harvests and a famine; in Hưng Hóa's vicariate, bishop Paul-Marie Ramond recorded that ten percent of the population had succumbed (Michaud 2004:301).

[62] "Poor sanitation and contaminated water led to other fatal diseases, such as dysentery and cholera, 'the great patron of the first century on Poulo Condore,' according to Jean-Claude Demariaux. Hanoi Civil Prison had to be evacuated in 1888 and again in 1890 owing to cholera epidemics. Between May and June 1904, a cholera epidemic killed 30 prisoners there. Huynh Thuc Khang mentions an outbreak on Poulo Condore that killed three of his cell mates. In 1915, cholera epidemics struck several prisons in Tonkin, including Hai Phong, which suffered 8 fatalities, and Hanoi Central Prison, where 60 prisoners died" (Zinoman 2001:95).

While European scientists were gaining an understanding of the pathogenesis of cholera and made advances in its treatment and prevention during the course of the colonial period, cholera repeatedly spread aggressively in Indochina under French rule. Table 3 aggregates epidemiological data from cholera outbreaks recorded in Vietnam in diverse source materials from the early 19th century until the mid-1990s.

Year	Region	Reported Cases	Reported Deaths	Source
1820-1850	Not specified	No data	864,000	Chapuis 1995:197
1821	NS	No data	Millions	Popkin 1979:113
1849	NS	No data	600,000	Popkin 1979:xvi
1850	NS	2 million	No data	Barrett 1982:17, MOH 2007:12
1858	Đà Nẵng/Tourane	Hundreds (French)	No data	Page 2003:726
1884-8	NS	Thousands	3,300	Vann 1999:317
1895-6	Hưng Hóa	No data	10 percent of population	Michaud 2004:301
1904	Poulo Condore	No data	30 prisoners	Zinoman 2001:96
1908	Huế	"Half the city"	70% of cases	Barrett 1982:17
1910	Hanoi	No data	15,473	Vann 1999:345
1910-1930	NS	5,000-30,000/annum	No data	MOH 2007:13
1919	NS	72	No data	des Barres 1927:295
1920	NS	137	No data	des Barres 1927:295
1921	NS	No data	93	des Barres 1927:295
1926	NS	7,604	5,129	Đặng Thị Nga 2007
1926	all Vietnam	12,828	9,102	Swaroop and Pollitzer 1955:336
1927	NS	23,054	18,343	Đặng Thị Nga 2007
1927	all Vietnam	24,046	23,478	Swaroop and Pollitzer 1955:336

1926-7	NS	No data	50,000*	ASNOM 2012
1930-1940***		28,084	20,964	Malarney 2007:46
1937-8	*North/Center*	*20,670*	*15,799***	Malarney 2007:46
“		*20,687*	*14,992*	*MOH 2007:13*
1944-5	all Vietnam	No data	No data	Swaroop and Pollitzer 1955:336
1964	South Vietnam	20,009	821	MOH 2007:13
1965	South Vietnam	20,000[63]	No data	Carter 2008:208
1976	Reunified VN	< 23,195[64]	No data	LFS 2003; Banister 1993
1980	“	~12,527[65]	No data	LFS 2003; Banister 1993
1994	Central Highlands	1459	No data	MOH 2007:13

Table 3: Cholera Epidemiology in Vietnam, Major Outbreaks 1858-1994.
* All Indochina, not including Laos. **All Vietnamese deaths; no foreign deaths. ***Figures for 1930-1940 are inclusive of 1937-8 epidemiological data.

During the colonial period, the French deployed cholera as a symbol of the peril and incivility of life in Indochina, as well as appropriating it as a justification for intrusions into Vietnamese private life and civic order. These measures were continuous with the French attitudes of the period towards Indochinese populations, which expressed a derogatory Orientalism, often portraying Vietnamese and other colonial subjects as continuous with disease, peril, and anti-civilization. Though the French ranked the Vietnamese above the Cambodians and the “demi-sauvage” highland minority groups in their hierarchy of regional “races,” and perceived them as more coöptable than the Chinese and Malay populations (Trankell and Ovesen

[63] It seems unlikely that two cholera outbreaks of such magnitude broke out successively in 1964 and 1965; the contradiction between the Ministry of Health and Carter data probably represent imprecise periodization rather than two successive episodes of cholera. Data from the World Health Organization’s Global Health Atlas support a 1964 epidemic.
[64] Estimated projection based on annual case rate and available population data.
[65] Estimated projection based on annual case rate and available population data.

2002:94), French writers of the period also represent Vietnamese as physically feeble and defective (Thuy Linh Nguyen n.d.:9-11); their culture as both backwards and exotic (Furlough 2005); their everyday activities as dirty and disgusting (Hoskins 2007); and the spaces they inhabited as virulent and pathological (Vann 1999). Colonial authors drew on both racial and climatic evidence to explain the assumed inferiority of "Annamite" people and bodies, producing pseudoscientific artifacts such as "an illustrated cranial analysis that purported to explain the less developed Vietnamese brain by reference to the effects of tropical climate" (Bradley 2000:18).[66]

Like their eighteenth- and nineteenth-century European counterparts in Africa, imagined as "a continent inimical to civilized existence," (Comaroff 1993:312), the French characterized Indochinese territory as inhospitable verging on deadly. Epidemiological realities partially substantiated this attitude: missionaries, administrators, and troops were unfamiliar with regionally prevalent diseases such as malaria, and were also ill equipped to manage more familiar contagious diseases – cholera, leprosy, smallpox, and plague. As the presence of resident French colonial administrators and their families was established, a cultural preoccupation with health, illness, and death developed in Hanoi: "With the perpetually busy hospital and the rapidly expanding graveyard as reminders of white mortality, pessimism, fatalism, and depression darkened the white experience in the city" (Vann 2005:96).

The health risks of contact with Vietnamese bodies were constantly emphasized by the French medical services, who issued warnings not only regarding infectious disease, but also against opium use and the sexual temptations of Vietnamese women (and men); the latter

[66] North American observers in the later colonial period, while citing the poverty and low living standards of the Vietnamese as rhetorical ammunition for criticizing French colonial rule, simultaneously borrowed French perspectives in characterizing the Vietnamese as racially inferior, enervated by Chinese rule, and essentially passive, dishonest, and primitive (Bradley 2000). In a 1924 survey prompting American diplomats, missionaries, and

warning underscored French perceptions of Indochina as an environment of enervating decadence (cf. Proschan 2002).[67] A European making an extended stay in the region ran the risk of physical and mental, as well as moral and social, degeneracy and *décivilisation*.[68] Health advisories warned colonials of the threat of becoming racially corrupted, losing their ability to live and reproduce as healthy white citizens.[69] Running themes in colonial humor reflected French anxieties surrounding the susceptibility to infectious disease, the risk of death, and the concomitant psychological discomforts that colonials suffered in the Indochinese tropics (Vann 2009).

By the early 20th century, the aims of the medical service in Indochina were, according to medical inspector Clavel, "the battle against disease, the physical improvement of the Annamite race, and, at the same time, the economic development of the country" (Bernard 1922, Marcovich 1988). Specific objectives were "to propagate notions of hygiene, incessantly fight against diseases, and lower the appalling mortality caused by ignorance and prejudice" (Trankell

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politicians to rate the world's civilizations by climatic and racial characteristics, Vietnam's ratíng averaged in the thirty-fifty percentile, slightly above that of Africa (Bradley 2000:18).

[67] Sexually transmitted disease in colonial-era Hanoi was widespread, owing to the high prevalence of commercial sex in the capital. By the late 1930s, of the city's population of 180,000, some 5,000 women worked as prostitutes; the result of poverty and women's eroded status. Though definitive data on the prevalence of sexually transmitted disease among Hanoians of the period do not exist, French doctors estimated in 1930 that between 9 to 16% of the population were carriers (Malarney 2011:33-34).

[68] Unique pathologies believed to affect French residing in Indochina were catalogued in medical discourses of the period. *L'anémie coloniale* referenced the general malaise that affected whites in tropical colonies; distance from civilization and proximity to the colonized allegedly caused neurasthenia; and a psychological malady akin to depression or culture shock was termed *le cafard:* "a sort of misanthropy" understood to be physiological (Vann 1999:313,379; Stoler 1989:646). French medical knowledge of the period posited whites in colonial territories as:

> a distinct and degenerate social type, with specific psychological and even physical characteristics. Some of that difference was attributed to the debilitating results of climate and social milieu, 'such that after a certain time, he [the colonial] has become both physically and morally a completely different man.'" [Stoler 1989:646]

[69] Anxiety surrounding the unviability of white bodies and their potentially imperiled reproductive capacity in the tropics was literalized in medical warnings to French women traveling to Indochina, who "were warned that they would only be able to fulfill their maternal duty 'with great hardship and damage to their health'" (Stoler 1989:649-650). Discourse and policy about *métissage,* or unions leading to mixed-race offspring, revealed a different facet of French concerns about the integrity of white bodies and the shoring up of the colony's "internal frontiers" (Stoler 1992).

and Ovesen 2002:97). However, the ambiance of physical danger, alienation, and contagion also motivated French planners to institutionalize and concretize social and spatial apartheid into occupied Hanoi, with barriers between classes that could function as *cordons sanitaires* in case of infectious outbreaks (Vann 1999:321). While the gates that once closed off city districts from another during outbreaks are gone, spatial disparities in housing, services, and access to social determinants of health can still be seen in modern-day Hanoi.

Cholera control in colonial Indochina set the stage for a struggle between the French medical authorities and Vietnamese communities in Hanoi. By administering the epidemic via the registration of deaths, autopsies, vaccination campaigns, and the confiscation of possessions and corpses from affected families, the French medical authorities alienated Hanoians profoundly. Offended by the intrusions into the private family events of illness, death, and burial, Vietnamese families concealed their dead from the French authorities, sometimes burying them in secret or representing plague deaths as cholera deaths (Vann 1999:335-336).

But beyond providing an opportunity to exercise resistance against biomedical surveillance and control, cholera represented one of the enormous contradictions of "modernization" that was imposed on Indochina. The association of high prevalence of cholera with the colonial period in Vietnam was an ironic reminder of the perverse, unjust humiliations of the colonial period, when anti-modernity and "backwardness" were enforced through exploitation and impoverishment. French "modernization," imposed in tandem with resource extraction, taxation, and political repression, supported the outraged nationalist perception that "Western civilization is only a thin coat of whitewash over a decaying wall" (the novelist Hoang Dao, 1938, quoted in Ngô Vĩnh Long 1991:76). A series of devastating cholera outbreaks and other disasters in the 20th century raised popular will to replace colonial rule with an

autonomous, independent form of modernity.

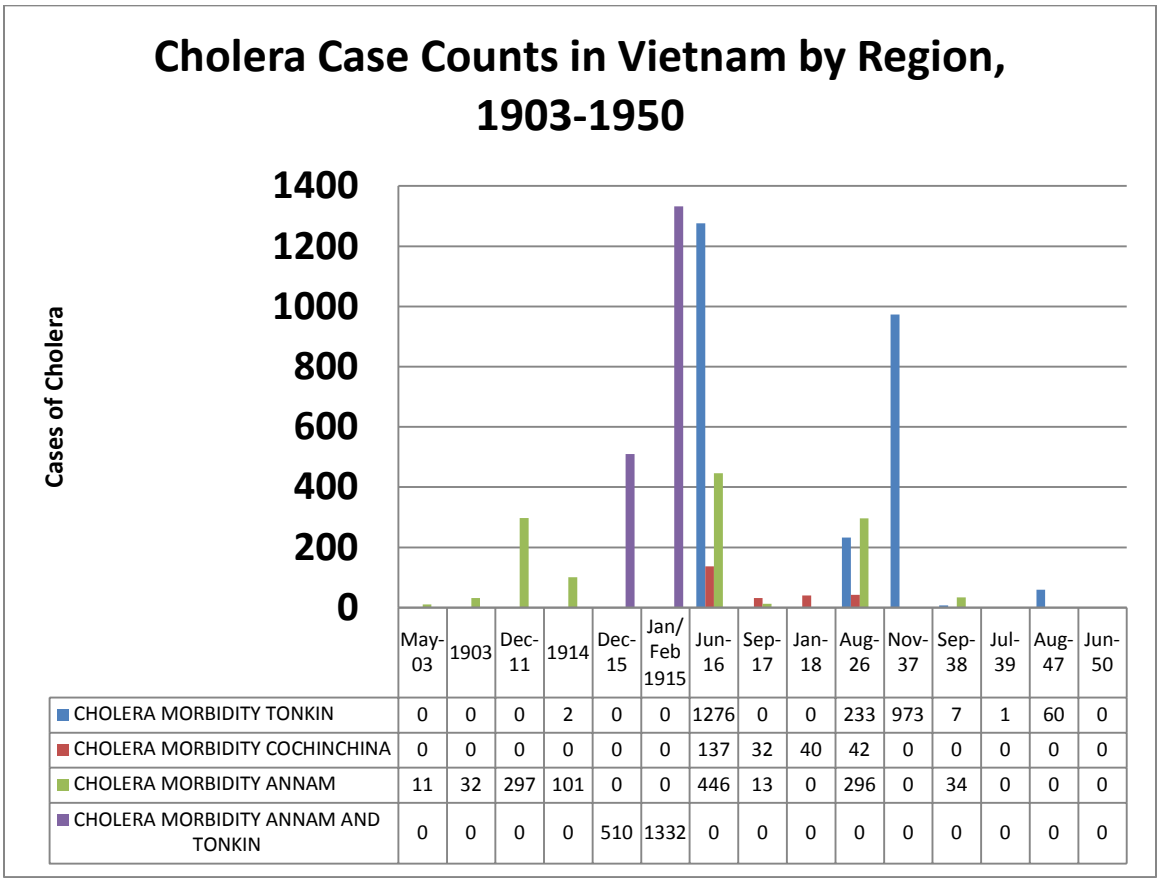
Cholera in Twentieth-Century Vietnam

Cholera outbreaks occurred throughout colonial Indochina, both in cities and the provinces. Hanoi, the capital of the Indochinese Union, suffered "perpetual" health crises, especially as cholera "became a regular visitor to the city during the colonial period" (Vann 1999:307). Colonial physician Le Roy des Barres cited almost continuous outbreaks during and after conquest and pacification, with smaller outbreaks occurring regularly between large-scale disease events:

> Epidemic manifestations of cholera are relatively frequent in Hanoi. However, they manifest a certain tendency to space themselves out, which seems related to the progressive improvement of individual and urban hygienic conditions. Before 1926, we know of epidemics in 1885-1886-1887-1888-1895-1896-1903-1904-1910-1915-1916. In 1919, [there was] a small epidemic of 72 cases, another in 1920 with 137 cases and another in 1921 which struck down 93 people. [des Barres 1927:295]

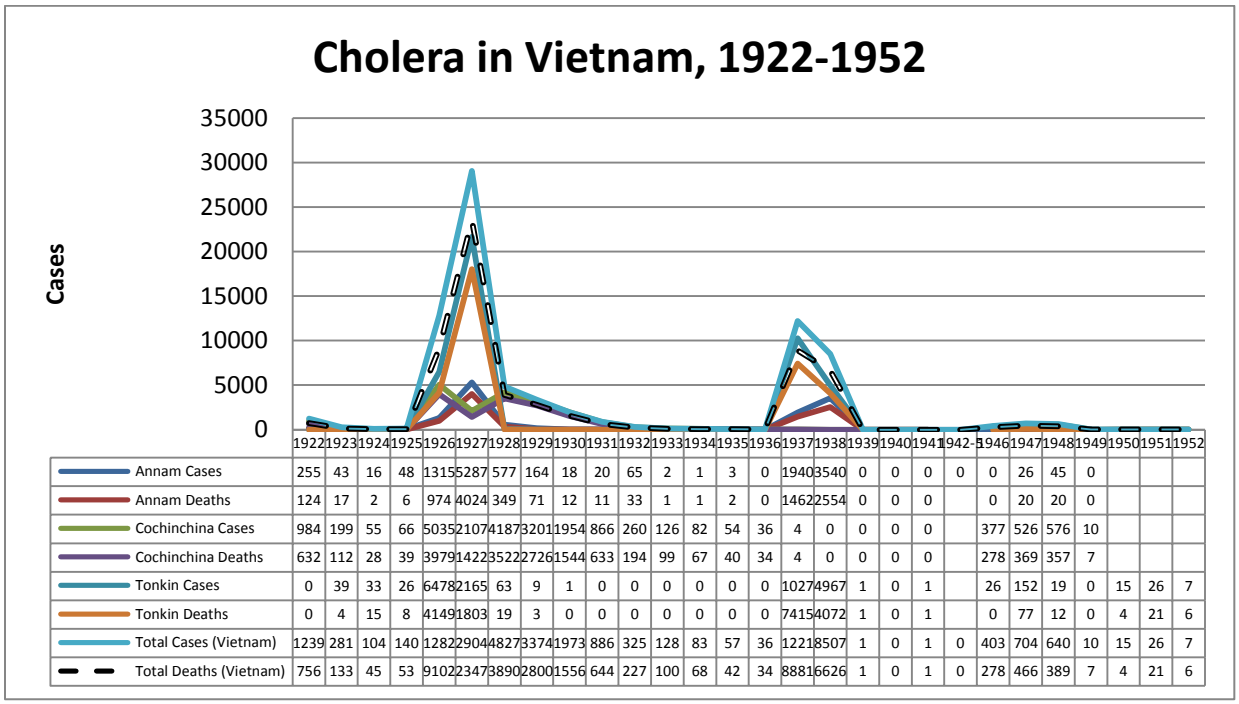
Cholera continued to be a leading cause of morbidity and mortality in the Indochinese population, with a total of 28,083 cases and 20,964 deaths reported in the 1930s alone (Malarney 2007:46). Graph 2, "Cholera Cases and Deaths in Vietnam by Region, 1903-1950," and Graph 3, "Cholera Cases and Deaths in Vietnam by Region, 1922-1952," provide an overview of cholera morbidity reported in the three regions of Vietnam for late colonial period. The former graph is composed of data drawn from the Public Health Reports (Foreign and Insular), which issued weekly morbidity and mortality data on cholera and other "quarantine diseases" (plague, smallpox, and yellow fever) as reported by "consuls, diplomats, chargés d'affaires and officers of the Service" overseas and in the United States (Cliff et al. 1998:384). These figures, despite

showing cholera's relatively serious epidemiological profile, are far below the assessment of the Vietnamese Ministry of Health for the period, which assert that "Between the years 1910-1930, the annual case count of cholera patients was between 5,000 and 30,000" (MOH 2007:12). As the graphs show, during the late 1940s national cholera prevalence dropped sharply or was not reported.



	May-03	1903	Dec-11	1914	Dec-15	Jan/Feb 1915	Jun-16	Sep-17	Jan-18	Aug-26	Nov-37	Sep-38	Jul-39	Aug-47	Jun-50
CHOLERA MORBIDITY TONKIN	0	0	0	2	0	0	1276	0	0	233	973	7	1	60	0
CHOLERA MORBIDITY COCHINCHINA	0	0	0	0	0	0	137	32	40	42	0	0	0	0	0
CHOLERA MORBIDITY ANNAM	11	32	297	101	0	0	446	13	0	296	0	34	0	0	0
CHOLERA MORBIDITY ANNAM AND TONKIN	0	0	0	0	510	1332	0	0	0	0	0	0	0	0	0

Graph 2: Cholera Cases in Vietnam by Region, 1903-1950. Source: Public Health Reports (Prevalence of Disease: Foreign), 1903-1950.



	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942-1945	1946	1947	1948	1949	1950	1951	1952
Annam Cases	255	43	16	48	1315	5287	577	164	18	20	65	2	1	3	0	1940	3540	0	0	0	0	0	26	45	0			
Annam Deaths	124	17	2	6	974	4024	349	71	12	11	33	1	1	2	0	1462	2554	0	0	0		0	20	20	0			
Cochinchina Cases	984	199	55	66	5035	21074	1873	201	1954	866	260	126	82	54	36	4	0	0	0	0		377	526	576	10			
Cochinchina Deaths	632	112	28	39	3979	14223	522	726	1544	633	194	99	67	40	34	4	0	0	0	0		278	369	357	7			
Tonkin Cases	0	39	33	26	6478	2165	63	9	1	0	0	0	0	0	0	1027	4967	1	0	1		26	152	19	0	15	26	7
Tonkin Deaths	0	4	15	8	4149	1803	19	3	0	0	0	0	0	0	0	7415	4072	1	0	1		0	77	12	0	4	21	6
Total Cases (Vietnam)	1239	281	104	140	1282	29044	827	337	1973	886	325	128	83	57	36	1221	8507	1	0	1	0	403	704	640	10	15	26	7
Total Deaths (Vietnam)	756	133	45	53	9102	23473	890	280	1556	644	227	100	68	42	34	8881	6626	1	0	1	0	278	466	389	7	4	21	6

Graph 3: Cholera Cases and Deaths in Vietnam by Region, 1922-1952. Note: No data are available for the period 1942-1945. Data for 1950-1952 are not disaggregated by region. Source: Swaroop and Pollitzer 1955:336.

Though cholera struck with little geographic predictability, outbreaks showed an alarming regularity. In 1908, an epidemic in Huế affected half the city's population, with a case fatality rate of 70 percent (Barrett 1982:17). By 1910, another cholera epidemic broke out in Hanoi (Vann 1999:344). Eight hundred and seventy-two cases were recorded between April 15th and July 1st, of which 720 died: a case fatality rate of 82 percent. Only twenty of the 872 were European (Vann 1999:345). A survival rate of approximately 85 percent was recorded for European cholera patients, indicating that living standards, as well as superior access to medical care, had important ramifications (Vann 199:345). By the end of the epidemic, 15,473 deaths were recorded; estimates suggested that the real toll was closer to 20,000.

By the First World War, when France was conscripting Indochinese men to the European front, cholera represented "the most troublesome" disease for the colonial authorities.

Tuberculosis, plague, and syphilis also occurred regularly, but "unlike other debilitating health problems that also drew complaints for the metropole, the threat of cholera was significant enough that the ministry was willing to turn back entire steamers contaminated with the disease" (Au 2011:46). By the 1890s, the "construction of hospitals and improved sanitation facilities" had begun to relieve European troops of the "ravages of disease, particularly cholera" while the Vietnamese population suffered the brunt of disease outbreaks (Munholland 1981:646).

1937-8 Epidemic

Disparity between Vietnamese and foreign cholera and other infectious disease morbidity and mortality, underwritten by socioeconomic disparities and other inequities in quality of life, continued through the 1930s despite the colonial administration's periodic imposition of quarantines and mass vaccination. In 1937, a fishing boat from southern China apparently brought cholera to Đồ Sơn, south of the Tonkinese port city Hải Phòng. (Malarney 2007:49).[70] Disease passed from Hải Phòng and Móng Cái provinces along the railroad and via footpaths to multiple more provinces; in total, "the number of cases rose to 20,687 people, in which the number of casualties was 14,992 (70% case fatality rate)" (MOH 2007:12-13).[71] The epidemic lasted 13 months, primarily affecting northern Annam and Tonkin, and especially Thanh Hóa province in Annam and Hà Đông province southwest of Hanoi in Tonkin. An extract from the report of the General Inspection of Hygiene in Indochina showed a case rate of 0.260 cases per hundred and 0.14 deaths per hundred in Tonkin, and a slightly higher case rate of 0.26 and death rate of 0.20 per hundred in Annam (Genevray 1939:1027). As a French observer noted, the

[70] Swaroop and Politzer (1955:335-336) attribute the 1937-8 epidemic to an influx of migrants from south China.
[71] Malarney cites a slightly lower case count of 20,027 but a higher case fatality rate of 74.5%, or 14,921 deaths (2007:50).

incidence of cholera was strongly associated with poverty:

> … in his study of the epidemic, Genevray made a significant comment. As he stated, 'It was above all a disease of destitution, that for the most part struck the most disinherited class of the population. With only rare exceptions, there were no great centers of the epidemic, but a very large number of isolated cases and small centers of the epidemic in villages. Water appears to have played no role in its propagation, which was done through interhuman contact.' [Malarney 2007:50]

Despite the aggressive response of the colonial health authorities, the disease found its niche among the "poorest and most vulnerable sections of Tonkin society, such as the laborers, petty market sellers, rickshaw pullers, or especially beggars" (Malarney 2007:51). Sick and destitute people coming into the city in search of care collapsed and died on the roadside. Colonial authorities cordoned the city areas believed to be particularly likely to spread disease and imposed mass vaccination. While in the 1910s, Vietnamese were resistant to accepting smallpox vaccinations, "between 1937 and August 1938, faced with a rampant cholera epidemic, 9,650,000 people or about half the population, accepted inoculation." (Marr 1987:47)

Colonial Policy: Disease Prevention and Control

Attack rates recorded for cholera epidemiology among Vietnamese and foreign populations express the inequities of the colonial situation as they translated into health outcomes. While French individuals were not invulnerable to the diseases that affected Vietnamese population, their chances of survival, improved by access to better living conditions and superior health services, were considerable. Through the 1930s, cholera epidemiology was strongly bimodal in the colonial situation, affecting the Vietnamese population to the virtual exclusion of the French. From 1930 to 1940, "only two Europeans contracted cholera and none died, while there were over 28,000 *reported* cases among the Indochinese, of which almost 75%

died" (Malarney 2007:46). The excess mortality for cholera among the Vietnamese for the period is exactly equivalent to the number of deaths, supporting Vann's claim that "[I]n colonial Hanoi, white privilege could make all the difference in the world, especially in cases of life or death" (Vann 1999:345-6).

Religious Responses to Cholera

Both the dearth of medical resources to prevent or treat cholera, and the fear and desperation that cholera inspired in the family members of its victims, are revealed by descriptions of religious and magical responses to cholera.[72] "Cholera ghosts" were popularly held to be the spiritual authors of epidemics in the 19th century (Craig 2002:94, Hữu Ngọc 2008:967); members of the mandarin class as well as the general population warded off or propitiated the spirits during epidemics in the dynastic period (Marr 1987:39).[73] One method for treating symptoms "involved crafting a bamboo and paper effigy of the threatened individual (*con nộm*), then following the directions of a sorcerer in offering it to the cholera or smallpox ghost together with some food and drink" (Marr 1987:40). More dramatically, communities responded to cholera outbreaks by

> … [O]rganizing processions of men armed with spears, machetes, drums and firecrackers to march around villages and drive away the hordes of threatening ghosts. Thorn bushes were placed across roads, bamboo stakes daubed with lime planted on paths, and banners inscribed with demon-defying slogans hung at strategic points… Each family also took its own defensive action, sticking Chinese characters on the door, daubing the walls and rafters with lime, perhaps lighting wet faggots to smoke out any disease ghost which slipped through. The

[72] Given that belief in germs as the cause of disease was not widespread at the turn of the century, this is perhaps especially unsurprising (cf. Malarney 2004).

[73] Marr's description of disease outbreaks in dynastic-era Vietnam (Marr 1987:39) includes a number of interesting observations, including that multiple forms of recourse were pursued simultaneously to address a "rash of deaths in or near the capital"; that the court's authority appeared irrelevant to the population during disease crises; that officials apportioned culpability to women, presumably for moral lapses; and that the general population, identifying ghosts, demons, and spirits as the authors of disease, observed a proscription on naming the malady in question.

> name of the disease was never mentioned, as that might attract the spirit's attention. [Marr 1987:39]

The colonial-era author Jeanne Leuba described how during the 1910 cholera epidemic, hundreds of Vietnamese turned out in processions with fireworks and music in Hanoi's traditional Thirty-Six Streets[74], making a ritual trip to the banks of the Red River and burning votive floats in an appeal to the gods responsible for the epidemic (Vann 1999:343-344). In Quảng Trị province, religious responses expressed a different character. Supplicatory gestures by the families of the afflicted evidenced the degree of despair caused by cholera epidemics:

> The act of taking a handful of grass in the mouth, "to bite the grass," to be reduced, like animals, to eating grass, indicates the limit of misery and ill fortune. It is also the mark of an extreme humiliation, the sign of a profound abasement. [Cadière 1910:519][75]

Cholera in the Socialist Period (1945-1975)

Prior to the August revolution of 1945, Vietnamese nationalists associated cholera both with the feudalism of the dynastic period and with underdevelopment of the colonial period. The fear of cholera as a threat to civilization was expressed in the claim of a 1937 text that "illiteracy was as dangerous as cholera," because it could "retard people intellectually or even lead to the extermination of an entire nationality" (Marr 1981:178). These principles were carried forward following the overthrow of French rule and the institutionalization of socialism. Vietnam expanded its public health system, developed a national network of commune health stations, and implemented a campaign to vaccinate against communicable diseases. Particularly, the

[74] This references the streets composing the central portion of Hanoi's Hoàn Kiếm district, the historic location of guild-based production and trade. Their layout dates to the fifteenth century (Logan 2000:3).

[75] The extremity of this practice is especially marked when compared to other cultural practices referencing cholera protection. Essayist Hữu Ngọc has written of Buddhist rituals practiced in rural Vietnamese villages to disperse

project of cholera eradication after independence was a patriotic initiative as well as a pragmatic one. Cholera was said to be eradicated in North Vietnam as early as 1957 (Pham Ngoc Thach 1967:29). Despite wartime destruction, there were no epidemics of cholera or smallpox in the Democratic Republic of Vietnam. Similarly, the DRV was untouched by the cholera epidemic of 1961, which affected most of South and Southeast Asia "from India to Indonesia, from the Philippines to Hongkong, including South Vietnam" (McMichael 1976:46).

While the North remained virtually free of the disease, owing to the success of the health system and the strength of disease eradication campaigns, the number of cases of cholera in South Vietnam increased from a few hundred in 1963 to more than twenty thousand by 1965, the direct result of war's erosion of living conditions (Carter 2008:208).[76] Contrary to US reports of the period, US bombing and the establishment of "free fire" zones in South Vietnam, and not the activities of the South Vietnamese Liberation Front, created an enormous population of internally displaced people, setting the stage for disease epidemics in refugee camps and urban slums.

In 1964, the arrival of the seventh pandemic of cholera, *V. cholerae* 01 El Tor biotype colluded with wartime conditions to cause an outbreak in South Vietnam, with 15,000 reported cases of cholera and 700 deaths (Barrett 1982:18). WHO data suggest that the outbreak was rather larger than US sources suggest, with 20,186 cases and 872 deaths (WHO 2008b:1). United States sources ascribed the case fatality rate of 4.66 percent to "massive" US aid, while alleging that immunization efforts in some provinces were held back "by Vietcong propaganda

---

cholera ghosts or demons in the early 20th century (Hữu Ngọc 2008:967-6); as described, these ceremonies express a corporate ethic of purification rather than an individual gesture of abjection.

[76] World Health Organization data indicate that 20,186 cases and 872 deaths were reported (WHO 2008b:1). This epidemic was caused by the more virulent strain of cholera, *V. cholerae* 01 El Tor biotype, which emerged globally in 1961 to inaugurate the seventh cholera pandemic.

which convinced the local population that 'the needle' would kill them" (Barrett 1982:18).

> The number of cholera [cases] in Southern Vietnam had increased from a few hundred in 1963 to more than twenty thousand by 1965. One physician investigating the problem reported that 'the destruction of villages, the uncontrolled movement of groups of people and the squalid conditions in the camps have broken the natural barriers to the spread of disease.' [Carter 2008: 208-9]

In 1973, cholera was controlled in North Vietnam along with other plague, smallpox, malaria, and sexually transmitted disease, a remarkable accomplishment given the context of war (Allukian and Atwood 2007:328).

1976 Epidemic

After the end of the Second Indochina War, North Vietnam experienced a cholera outbreak believed to be associated with a "massive repatriation": a population influx from South Vietnam consisting mostly of individuals who had fled across the 17th parallel in 1954 after the Geneva Conference (Dang Nguyen Anh, Tacoli, and Hoang Xuan Thanh 2005:288). The outbreak may also have been associated with "large-scale population movement from urban to rural areas with the establishment of New Economic Zones" (Dang et al. 2005:288). Further, the Ministry of Health also cites "scattered seasonal epidemics of cholera in Hai Phong and Quang Ninh" at the time, noting that these were "not equivalent to the confirmed cases of cholera circulating in the North." All told, the national burden of cholera was substantial: the national prevalence of cholera – assumedly, for the reunified country – was 43.40 cases per 100,000 population (Ministry of Health 2007a:14), suggesting rampant epidemicity.[77] Table 4a shows

[77] Census data are not available for 1976, but data compiled in 1979 indicate a national population of 53,446,120 (Banister 1993:9). Calculating the total number of cases of cholera by using the 1976 case rate and the 1979 population generates a figure of 23,195 total cases (a figure slightly higher than would have been recorded, given the probably smaller national population of three years prior). In 1980, the population of Vietnam in 1980 was

the rate of reduction that followed the 1976 outbreak, accomplished via mass prophylaxis and hygiene and sanitation campaigns at the commune level. Table 4b reproduces data on the reduction of infant mortality through wartime and in the postwar period.

Disease	1976	1980	1981	1982	1983	1984	1985
Cholera	43.4	23.1	7.0	1.3	9.8	0.4	2.5
Plague	2.4	1.9	5.2	5.8	3.9	0.3	0.1

Table 4a: Principal Communicable Diseases: Cases per 100,000 Population, 1976-1985. Source: Do Nguyen Phuong *in* Living Future Society (2003:5).

	1960	1965	1965-1975	1980	Late 1980s
Infant deaths	160[a]	57.3[b]	37.4[b]	47[c]	43[c]

Table 4b: Infant Mortality per 1000 Live Births, 1960-1980s. Source: (a) Segall et al. (2002:498); (b) Hirschman, Preston, Vu (1995:787); (c) Hirschman, Preston, Vu (1995:786).

Postwar Cholera Epidemiology in Vietnam

Information on demographic and health trends in postwar Vietnam were both scarce and challenging for foreign observers to access in that period. Nevertheless, statistics were still collected internally, and epidemiological and demographic data represented a particularly important source of moral authority for the socialist state: "SRV statistics on the incidence of contagious diseases during 1978-80 indicate[d] that cholera, plague, typhoid fever, diphtheria, measles, whooping cough, and polio were well contained by 1980" (Banister 1985:97). With respect to cholera, Vietnamese sources claim that there was "little" of this disease in North Vietnam before 2005 (Nguyen Bình Minh et al. 2009). But by the mid-1980s, David Marr less optimistically noted that "cholera and plague refuse[d] to be eliminated" (Marr 1988:26): an indication of the challenges facing the preventive health sector in the postwar period.

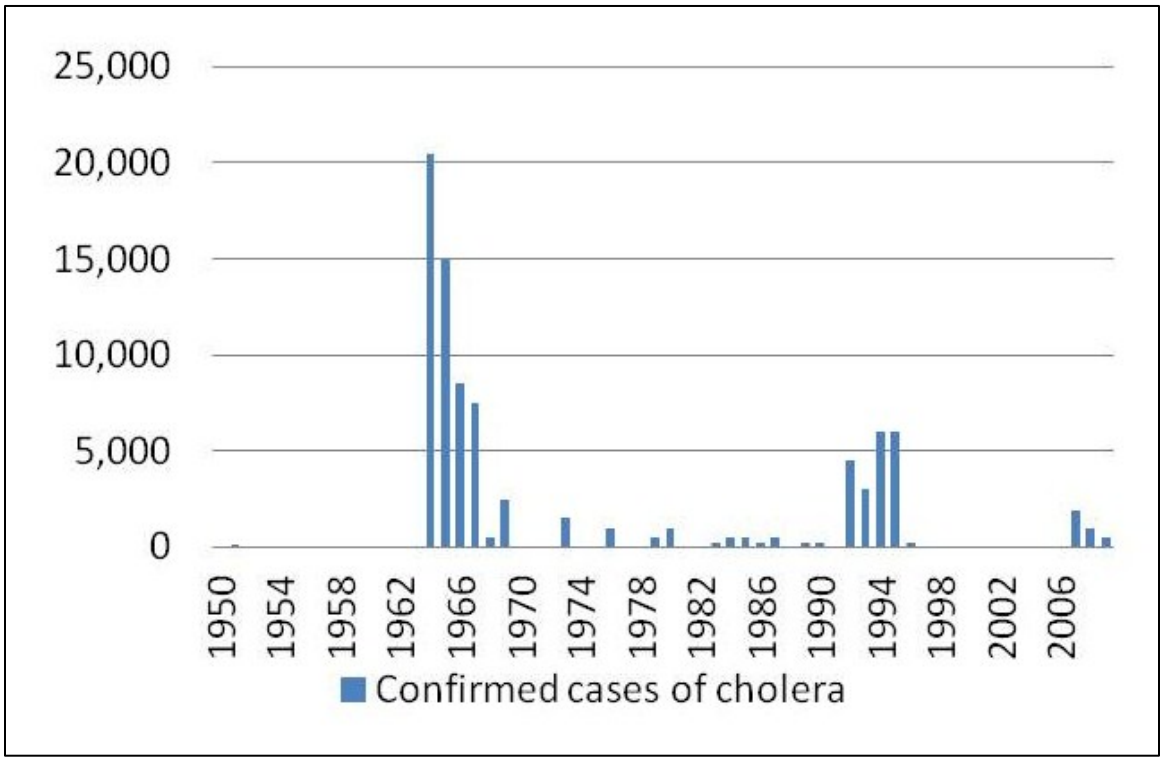
54,233,753 (Banister 1993:xi); given a case rate of 23.10 cases of cholera per 100,000 people, some total 12,527

It is difficult to establish which of these perspectives is more accurate, as contextualizing data to confirm or disprove either position are largely unavailable. As a comparison of Graph 4 and Graph 5 below indicates, there are numerous disparities between data available published outside Vietnam and the internal statistics of the Ministry of Health, such that it is challenging to give an accurate interpretation of the epidemiological trends during the postwar period. Graph 5, published by the World Health Organization, presents data for all of Vietnam without disaggregation by region.[78] This graph shows no cases of cholera occurring from 1950-1964, indicating the steady diminution of the disease in North Vietnam (WHO 2008). This graph shows no indication of the enormous national cholera outbreak in 1976, and no indication of the substantial disease burden in the 1980s that is recorded elsewhere. The apparently enormous scope of cholera as reported by Vietnamese health authorities is not nearly corroborated by the WHO Global Health Atlas data for 1975-1980, during which period the largest reported case count was 1,068 in 1976 (WHO 2003-2007). Finally, the graph shows a remarkable reduction in cholera incidence after reunification, with no substantial disease outbreaks until an outbreak in the Central Highlands in the 1990s. These cholera case counts published by the WHO vary substantially from those recorded by the National Institute of Hygiene and Epidemiology and republished in a peer-reviewed article by Dalsgaard et al. (1999). Overall, the WHO data give a much more positive impression of Vietnam's efforts to control cholera, especially during the 1980s. However, in more recent decades, both the Ministry of Health and the WHO have recorded very low national case counts of cholera, suggesting that communication between national and international health bodies may have become more transparent as diplomatic and

cases of cholera occurred that year.

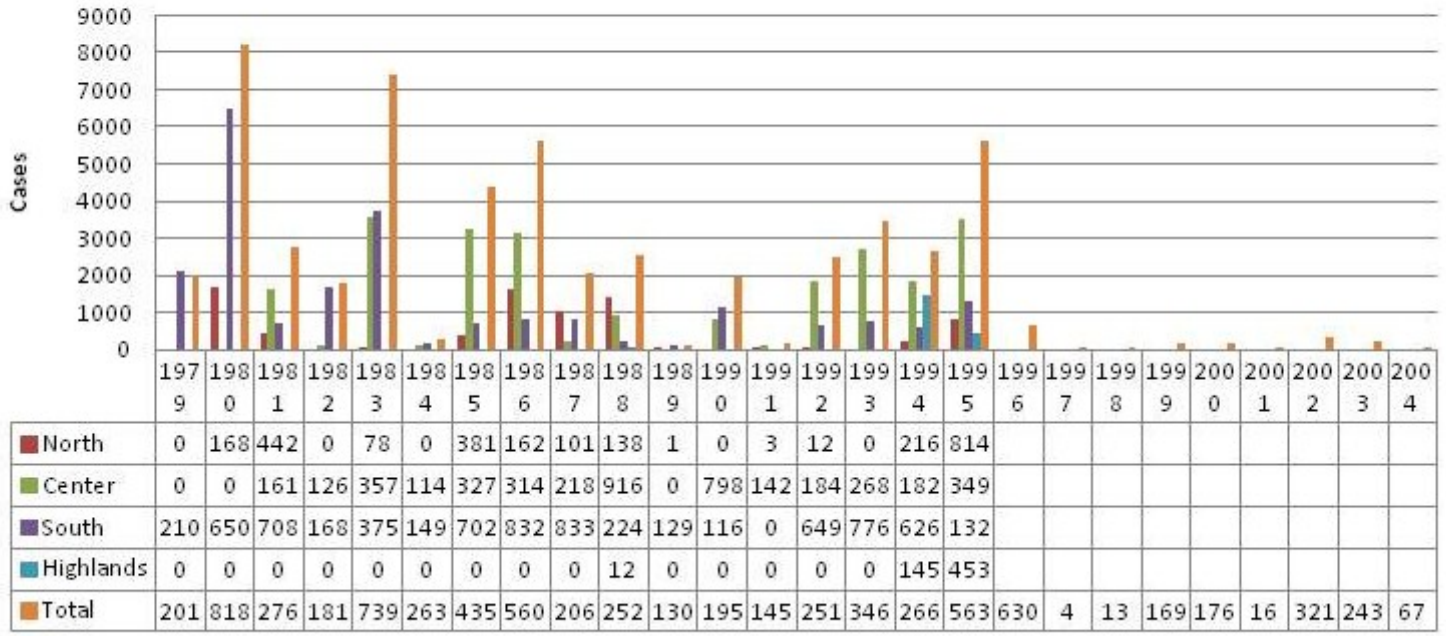
[78]Data are sourced from the World Health Organization's Global Health Atlas (WHO 2003-2007) national records of reported cholera (per personal communication, Dr. Tamano Matsui, August 10 2010).

economic relations between Vietnam and Western states improved.



Graph 4: National Case Counts of Cholera, Vietnam, 1950-2009. Source: WHO 2008, drawing on figures compiled by the WHO Global Health Atlas.

Cholera in Vietnam: National Case Counts by Region, 1979-2004



	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
North	0	168	442	0	78	0	381	162	101	138	1	0	3	12	0	216	814									
Center	0	0	161	126	357	114	327	314	218	916	0	798	142	184	268	182	349									
South	210	650	708	168	375	149	702	832	833	224	129	116	0	649	776	626	132									
Highlands	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	145	453									
Total	201	818	276	181	739	263	435	560	206	252	130	195	145	251	346	266	563	630	4	13	169	176	16	321	243	67

Graph 5: National Case Counts by Region of Vietnam, 1979-2004. Sources: 1975-1984 figures: Dalsgaard et al. 1998. 1985-1995 figures: Pittisuttithum 2003:728. 1996-2004 figures: Ministry of Health 2007a:12-16, excepting 1997-1999: WHO Global Health Atlas.

Conclusion

Since the 1820s, cholera has been a globally prevalent disease, with devastating regional or multi-regional pandemics breaking out cyclically. Cholera's origins are not well understood. European scientists have often recruited a medicalized Orientalism in imputing cholera to South Asian places and societies. The 19th century saw a protracted struggle over the physical causes of cholera, which were ultimately determined to be the waterborne cholera *vibrio*.

In Southeast Asia, cholera predated colonial incursion, but became a particularly serious burden after the arrival of the French in the mid-19th century. Whereas Europeans insistently attributed cholera to "Other" populations, they also acted as cholera vectors in the colonial period in Indochina, with their own bodies as well as their infrastructure for trade and transportation. Cholera during the latter half of the 19th century and the first half of the twentieth was one of the most significant epidemiological burdens in Vietnam. During the post-colonial socialist period, the public health system secured impressive gains in suppressing this and other infectious diseases, a legacy that the Democratic Republic of Vietnam apparently sustained through the Second Indochina War. However, cholera eradication appears to have been brief. Although the precise epidemiological burden is uncertain, cholera in North Vietnam seems to have been prevalent throughout the turbulent 1980s. As the next chapter will describe, Vietnam's appreciating economy over the past decade made the return of cholera unanticipated as well as unwelcome.

Chapter 3

Counting, Containing, and Explaining Cholera in Hanoi, 2007-2010

In January 2007, Vietnam became a member of the World Trade Organization, a long-coveted landmark in the country's pursuit of integration with global markets. In May, the new series "Vietnam Idol" premiered on Vietnamese television. By September, the country's confidence was being projected internationally: the Vietnam's Ministry of Sports, Culture, and Tourism placed a TV advertising spot for Vietnam on CNN, portraying the country as an "attractive destination with diversified and abundant cultural aspects and tourism products" (footprintsvietnam.com 2007), part of the country's new campaign to rebrand itself internationally with the slogan "Vietnam: The Hidden Charm."

Against a backdrop of cultural and economic globalization, and amid the state's promotion of Vietnam as a newly dynamic yet timelessly beautiful society, the outbreak of cholera in Hanoi during October 2007 came as a shock. It occasioned not only the marshaling of resources for disease prevention and control, but the rapid development and communication of models of causality and blame. As I will argue, these models identified certain social groups and forms of behavior as threats to public health. While these models occasioned controversy among some scientists, they were also broadly persuasive, in part because they satisfied "common-sense" models of social order and belonging. Ironically, the success of these models of disease causation left their subscribers underequipped to protect their health, and probably failed to identify more salient risk factors for the individual and large-scale transmission of disease.

Index Case and Outbreak, Fall 2007

In April 2010, I received a packet for epidemiology trainees that included a substantially more detailed account of the cholera outbreak of fall 2007 than any other article I had read to date. It began like this:

> On October 23, 2007, the Director of the Hanoi Health Department received a telephone call from a physician at Bach Mai Hospital. The physician had just examined a 73 year-old man who was vomiting and had severe acute watery diarrhea which looked like rice-water stool. His symptoms had started the night before and microscopic examination of the stool showed darting motility. The physician suspected cholera and sent stool samples to the National Institute for Hygiene and Epidemiology (NIHE) for culture. [Tran Minh Nhu Nguyen et al. 2008:2-3]

Dramatic! As the packet went on to explain, the patient, a rice farmer from Hanoi, appeared to be infected with cholera, an internationally reportable disease[79] with the capacity to spread rapidly. Following protocol, the physician sent notification up the hierarchy of public health administration; judgments, announcements, directives, and recommendations were sent down. Out of a slight mist, an organizational chart began to appear.

At the highest level, the Vietnamese state is accountable to international health authorities (the World Health Organization), to whom the Ministry of Health reports annual

[79] International Health Regulations require that national health administrations report cases of yellow fever, plague, and cholera to the World Health Organization "within the first 24 hours of being informed of the first suspected case on its territory of a disease subject to the Regulations. This includes both indigenous and imported cases. All subsequent cases and deaths should be reported to WHO" (WHO n.d.[b]).

Within Vietnam, health care providers and laboratories are also required to report cholera. There, cholera is a "class A" reportable disease. The discovery of a case of a disease so designated entails that health officials at lower administrative levels (i.e. a district or a province), are legally required to

> notify state agencies in charge of health and initiate cleansing, sterilization, disinfection and other measures for preventing and controlling infectious disease. Agencies, organizations, or individuals must notify the nearest People's Committees, specialized health agencies or health establishments upon detection … Provincial level People's Committee presidents are responsible for announcing epidemics at the request of provincial-level Health Service directors for class A (and B) diseases. The Minister of Health is responsible for announcing epidemics at the request of provincial-level People's Committee presidents for class A and some class B infectious diseases which have been announced in two or more provinces and centrally run cities. [Tran Minh Nhu Nguyen et al. 2008:2]

counts of infectious diseases – including HIV/AIDS, tuberculosis, and cholera. At the lowest level, there is the interface between local authorities and "the people" (*người dân*). On the orders of the Director of the Hanoi Health Department (who issued the request to the Director of the Provincial Health Center, one rung down), provincial health workers proceeded all the way down to the level of "the people." Following the laboratory confirmation of *Vibrio cholerae* infection, an epidemic response team conducted a field investigation, interviewing the man and collecting samples for laboratory testing (Tran Minh Nhu Nguyen et al. 2008:4-5). Days later, more cases of cholera appeared elsewhere in the region: on October 26th, a second, unrelated case was reported in Hanoi's Hoàng Mai district; by October 28th, 11 cases had been reported across the city (Tran Minh Nhu Nguyen, "Annex1" document, April 6 2010). The outbreak lasted through November 16, 2007, spreading across 14 Northern provinces and causing at least 1,880[80] cases of "acute watery diarrhea" – 240 cases of which were laboratory confirmed as cholera (WHO 2008b). By the end of 2007, the officially reported total of clinical cholera cases in Vietnam for the year far outnumbered the annual tally of clinical cases for every year of the past decade.[81]

The suspicion of cholera motivated communication and the enactment of hierarchical relationships – concretized in the form of lower-level agencies "going up" (*lên trên*) the hierarchy to surrender information and receive orders; in higher-level administrators making announcements and decisions, delegating responsibility, and requesting the execution of orders.

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[80] The precise enumeration of reported clinical and confirmed cholera cases varies between sources. A training document from the WHO/Field Epidemiology Training Program (2010:9) enumerates 976 cases of cholera; a report by a state epidemiologist cites 1,991 "clinical" (symptomatic) cases reported in fall 2007 (Tran Nhu Duong 2008). A "Cholera Country Profile" issued by the World Health Organization enumerates 1,880 clinical cases, but the total of cases, broken out by day, adds up to 1,946 (WHO 2008b:2).

The management of cholera in Vietnam required action delegated through multiple channels and in this way, the disease, like a dye stain, became a mechanism for tracing power relationships, impelling the flow of information and the (mostly downward) exercise of authority. As this chapter argues, the unraveling of the causality of cholera is also an occasion for the coding, enactment, and justification of social hierarchies.

These matters were conducted with a particular degree of urgency because cholera is not endemic in North Vietnam, as it is in the southern part of the country (Pittisuttithum 2003:726); it has been reported only rarely in North Vietnam since 1976 (Dalsgaard et al. 1999:69).[82] Cholera was also unexpected in October, given its tendency to appear during the rainy season. But this single case of cholera was not only unusual for occurring in a relatively cholera-free region during a period when cholera would seem atypical; the rice farmer's case of cholera represented the "index," or first case, of what would become an epidemic of thousands of clinical cases.

Not only the size but the patterning of North Vietnam's 2007 cholera epidemic appeared atypical of the standard progression of outbreaks in the region. Outbreaks are generally limited to rural areas, spatially concentrated, and traced to a single source, such as eating a shared ceremonial meal (*ăn cỗ*). In 2007, cholera was uncharacteristically scattered across Hanoi, with no detectable point source. Further, infection appeared to be spreading from the city into the surrounding rural provinces, not the other way around. Finally, from a public health assessment of Vietnam based on macroeconomics, the 2007-2008 outbreaks of cholera in Hanoi were

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[81] According to the National Institute of Hygiene and Epidemiology, the highest case count for any year during the previous decade was 343, reported in 2003. From 1996 until the present, "cases and clusters of case s have been reported sporadically in both rural and urban areas and outbreaks occur occasionally" (Tran Nhu Duong 2008).

[82] Ministry of Health and World Health Organization data qualify this latter claim. As shown in Chapter Three, there were several consecutive years in the mid-1980s when over 1,000 cases of cholera were reported in North

unexpected given that it is a disease characteristically associated with poverty and social upheaval. In 2005, an Asian Development Bank report stated that Vietnam's Red River Delta region, which includes Hanoi, enjoys the "epidemiological profile of a middle-income country" (Bloom et al. 2005).

As I scribbled in a notebook during a meeting with an epidemiologist in summer 2008, recapitulating her explanation of recent events: "During the 1990s, cholera was swiftly controlled; why is it resurgent now?" Just months before that conversation, cholera had recurred: "Between 5 March and 22 April 2008, Vietnam reported 2490 cases of severe acute watery diarrhoea (including 377 that were positive for *V. cholerae*) in 20 provinces" (WHO 2008:1). Cases continued to be reported throughout the year; between January and October, a total of 4,677 cases of "'severe, acute watery diarrhea' was reported in 18 cities and provinces of northern Viet Nam; of these, 649 had a positive stool culture for *Vibrio cholerae* sero group O1 (biotype El Tor, serotype Ogawa)" (Tran Nhu Duong 2008). All told, between October 2007 and July 2009, some 8,000 cases of cholera/severe acute watery diarrhea were reported for all of Vietnam (Trần Như Dương et al. 2010a:6).

Uncertain Causality and Stories about Cholera

As the above sources suggest, the cause of cholera was indeterminate, both in the investigation of the index case and in the wave of infections that followed. By the second cholera epidemic in spring 2008, the Vietnamese Ministry of Health, with its legitimacy imperiled, was implicating risk factors almost at will. In the absence of robust models of causality, significant creative license was taken in interpreting the cause and significance of the

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Vietnam. Prior to 2007, the last reported cases of cholera in Vietnam occurred in 2004, with a total of 67 cases (Tran Nhu Duong 2008) (or 62 cases, according to Ministry of Health 2006:70).

outbreaks. Cholera stories repeated by the media, by health officials, and by laypeople in Vietnam indexed anxiety about the forms of globalization, modernity, urbanization, and social changes that mark the nation's post-market reform period. Expressing potentially legitimate (but mostly uninvestigated) epidemiological possibilities, public health officials and ordinary people related cholera stories starring Thai and Laotian dog traffickers, food purchased from contaminated market stalls, and the chaotic environment of the rapidly urbanizing city: lakeside construction sites, drainage ditches, pollution in the Red River, and vegetables grown atop fields of sewage. One news story exemplified this tendency, providing an unranked list of environmental, infrastructural, commercial, behavioral, and food-related factors that were cast under suspicion in the mass dissemination of cholera: "wet markets," "street restaurants," the use of "fresh manure in fertilizing vegetables" and "polluted water in irrigating fields"; washing dishes used for street food in cold water without soap, unsanitary conditions on the national rail line, urban lakes, and "unsafe food" (Asian News Channel 2008). During the period of rapidly developing disease transmission, a pathway of contagion or other general explanation of the appearance of cholera in urban areas was never refined. Contradictory statements by health officials appeared in the neutral, minimally explanatory language of journalism, creating what one foreign health official described as "a little bit of a fog of information" (Channel News Asia 2008). The below press statement demonstrates this tendency, conflating hypotheses with certainty while underscoring the inability to confirm the source of disease:

> Contaminated dog meat, lax food hygiene practices and the use of human feces as fertilizer may be spreading Vietnam's worst cholera outbreak in at least a decade, health officials said.
>
> Eating dog meat or other food from outlets that serve it is linked to a 20-fold increase in the risk of developing the severe acute watery diarrhea commonly

> caused by the cholera bacterium, said Jean-Marc Olive, the World Health Organization's representative in Vietnam. Authorities have yet to determine the cause of the outbreak, he said. (…)
>
> In Hanoi, more than 1,000 cases of acute diarrhea have been recorded, the most in half a century, said Nguyen Huy Nga, director of the health ministry's Preventive Medicine Department.
>
> 'The cause of the acute diarrhea [*sic*] is a mystery,' Nga said in a telephone interview today. Uncooked vegetables, dog meat and shrimp sauce were the most likely causes, he said. [Bennett and Nguyen 2008]

Controlling Cholera

In a similarly generalizing atmosphere, disease control measures were initiated by the health authorities alongside ongoing epidemiological investigations. Disease control measures intervened in the local environment, responding to the perception that cholera had gained a foothold in natural spaces as well as urban populations. Urban lakes, suspected of constituting an infectious reservoir, were dredged and dosed with Cloramin-B (chlorine). Interview respondents in urban districts described other measures that had been implemented during outbreaks, including spraying bodies of water with chemicals, putting chemicals into home water tanks, and distributing oral vaccine in areas that were heavily affected. In one interview, a woman described some of the disease control measures that had been carried out locally in Hoàng Mai, a district that had been heavily affected by cholera.

ML	Have you received any information about preventing cholera?
Cô Thúy	Yes, before the preventive services gave me something to take to prevent it. They took it to every house, and announced for people to go to the health station and drink it.
ML	Did your family go?
Cô Thúy	Yes, we all went.

ML	When was that?
Cô Thúy	Last year.
ML	Do you know what it was?
Cô Thúy	Some medicine that smelled like durian. A lot of people were scared and didn't go, I thought it was fine, they called and I went right away, I didn't avoid it.
ML	Was it tablet medicine or liquid medicine?
Cô Thúy	It was 'crushed' medicine (*thuốc bóp*), they crushed it in my mouth, a smell like the smell of durian.
ML	Did they give out leaflets about cholera?
Respondent	They brought papers right to the house. – Đinh Thị Thúy, female, 56 years old, Hoàng Mai district, Mai Động ward, 5 March 2010

Hygiene information and supplies were disseminated in urban neighborhoods via traditional socialist methods of "propaganda" (*tuyên truyền*); as the men and women I interviewed noted, food safety messages reached them via loudspeaker (*loa*), radio, television, newspapers, and fliers. One of the most commonly repeated messages must have been "Eat cooked food, drink boiled water" (*ăn chin, uống sôi*), because almost half of the sample of respondents quoted this statement when I asked how they prevented food-borne illness at home. Dozens of my respondents also said "Don't eat shrimp paste, and don't eat dog meat," a statement which was based on the often-repeated finding[83] that these two food products were associated with cholera.

Beyond addressing city residents in their neighborhoods, the city's health authorities

[83] Various claims regarding the association between these foods and cholera were reported over the course of the epidemics. In 2008, Tran Minh Nhu Nguyen et al. suggest that 95% of the cholera patients reported that spring had eaten shrimp paste, 50% had eaten at a dog meat restaurant, while 40% had consumed dog meat (2010:9).

ordered inspectors to inspect and close dog meat restaurants and dog slaughterhouses. Street restaurants were inspected and closed, and in 2008, street food vending was sharply curtailed in both Hanoi and Ho Chi Minh City, with vendors barred from downtown areas of Hanoi and all informal trade in fresh food prohibited in Ho Chi Minh City. As one blogger wrote in a spirited defense of dog meat and a refutation of public policies that had been adopted in the wake of the outbreaks: "After the order forbidding dog, there were people who ironically said that the way of preventing disease in the capital is: *Wherever you touch, ban it. Whatever you touch, ban it.* Just forbid, forbid" (Dân Luận 2010).

These measures were implemented in an ambiance of publicized anxiety about food safety and the public sphere, given not only the cholera outbreaks but the recent outbreaks of avian influenza in Vietnam and the region. As Guénel and Klingberg suggest, these bans were preemptive, comprehensive gestures targeting potential future outbreaks as well as responding to the situation at hand. As such, they were carried out in the idiom of biosecurity, whose logic extends beyond production and consumption and "permeates the entire food sector" (2010:251). In the case of H5N1 control, shutting down "spontaneous markets" and "makeshift shops" enhanced the appearance of state control over public health and disease control and compliance with international health standards, while creating the conditions for increasing the market share of factory farms, supermarkets, and other large business interests in Vietnam.

Information Control

Having provided me with some reports, an NGO officer showed me to the elevator in her securitized building. As we passed her colleagues in their cubicles, she thanked me pleasantly for having waited for her, and wished me a nice weekend. Once we reached the lobby, her tone

lowered as she began explaining why I couldn't expect to get good information on the prevalence of cholera in Vietnam from the Ministry of Health: "First, because they don't have the system to collect any data, so they don't have the information. Secondly, they just want to cover it up and not expose anything." With a slight laugh, she repeated her last sentence as the elevator arrived. There was a tone of embarrassment in her voice, but she spoke with the authority of someone delivering the bad news. The "they" to whom she referred was unspecified. This is a speaking style that I had observed frequently in "sensitive" discussions, meaning regarding certain political topics: the speaker looks away to signal plausible deniability, or to see who's listening, and drops her voice when saying certain words. Her words came out in a bit of a rush. Her manner had the implication that she was passing on something that could, if overheard, get both of us in trouble.

Even as late as 2010, my acquaintance's inferences about state non-knowledge, incompetence, and concealment were political hot potatoes. The appearance and recurrence of uncontrolled cholera in and around the nation's capital caused a serious public relations issue for the Government of Vietnam: in spring 2008, Prime Minister Dũng issued a statement to ministers and provincial chiefs on cholera, indicating that the disease "not only affects our people's health but also socio-economic development, tourism and social security" (Channel News Asia 2008). The coupling of cholera with these other sectors of society indicated the extent to which cholera was politicized and "sensitive," and also revealed the degree to which the public's understanding of the disease was structured by secrecy, denial, and the control of information. While some commentaries linked these latter tendencies to "socialist" techniques of manipulation and disinformation, I will argue that techniques of deprioritizing certain kinds of

information have assumed new importance in the post-transition era, and are an important outcome of Vietnam's post-transition political economic situation.

The cholera outbreaks also shed light on the role of media in contemporary Vietnamese society. While the number and type of publications now available in Vietnam has increased in the post-transition period, and journalists have played an important role in reporting on issues like corruption, civil society, religion, the environment, and the Party's internal power struggles, the production and communication of national news is still tightly controlled, and the state has continued to prosecute bloggers who address social and political issues (cf. Thayer 2009). In their accounts of cholera, newspapers such as Tuổi Trẻ (Youth) and Dân Trí (Intellectual) typically republished the words and accounts provided by the Ministry of Health, with occasional supplements to this rather two-dimensional journalism in the form of quotes spoken by everyday citizens, or descriptions of street life in cholera-affected areas. The lack of more satisfying explanatory models and the appearance of incorrect interpretation of the significance of the cholera motivated a number of scientists and other independent writers to articulate forceful critiques of the state on their personal weblogs.

In my day-to-day experience of research on cholera, it gradually became apparent that alongside physical disease control measures, an official or de facto moratorium had been placed on responding to requests for information about this disavowed and embarrassing disease. Individuals at a number of health agencies refused to meet with me or put off sharing data until further notice. A series of requests for data and meetings was denied: data on cholera epidemiology could not be released from the National Institute of Infectious and Tropical Diseases – mostly, as my contact informed me, owing to concerns about "politics and tourism."

Access to patients was even more impossible, and legal documents on the control of cholera were similarly not forthcoming.

> Dear Dr. Martha Lincoln,
> Thanks for your mail. Concerning your question, I think I will give you the answer in detail at the end of this month when my research is approved. But I can tell you that not only were poor communities affected by cholera but others also were affected. [Both] men and women were infected by cholera....
> Keep in contact, I will give you information later.
> Sincerely,
> Dr. _____. – Personal communication, December 15, 2009. [84]

> I asked my friends about your question. It is very difficult for you to have data on cholera patients (almost impossible). There are some reasons; the most important reason is relative to tourism and politics. My friends suggest [that you research] about hepatitis or dengue, maybe it is possible [to get information].
> Yours truly,
> Dr. _____ – Personal communication, January 15, 2010.

> Dear Martha,
> I understand that you need some documents on infectious disease laws, that why I think the person from _____ is the right contact, because _____ is responsible for developing these documents. In fact, _____ office has no documents on this topic. I talked with my boss, a professor on cholera as I mentioned to you before. He refused to meet you because cholera is a sensitive topic and he doesn't want to talk with foreigners about that without permission of the Government.
> _____ – Personal communication, July 6, 2010.

When I asked friends with experience in public health to comment on why cholera was so threatening, they frequently mentioned the state's desire to protect economic sectors such as seafood exports and tourism, both of which represented substantial contributions to the GNP and both of which were vulnerable to reports of unchecked cholera. This appeared to be a legitimate extrapolation, given that Vietnam has had recent experience with the economic ramifications of a reportable infectious disease. It also seemed that in post-reform Vietnam, where the state represents itself as an efficient force of secular socialism, militarily effective force in "battling"

infectious disease and other social problems, the re-emergence of an infectious disease associated with the colonial past cut directly against this legacy of communist self-representation. Even more simply, as a representative of a foreign health NGO suggested, cholera was politically sensitive because of cholera's spatial and temporal associations: as she said, Hanoi "considers itself a modern city with things that a 'modern' city has, and cholera is not something a modern city has" (Field notes, November 11, 2009).[85]

While the cholera was represented as startling and extraordinary, more critical perspectives found it less so. One scientist, Phan Xuân Trung, published an article entitled "Language in the Time of Cholera" on his blog in 2007, shortly after the Ministry of Health had issued statements regarding the fall outbreaks and provided its recommendations to districts for cholera control. Critiquing the Ministry of Health for failing to assume leadership, for deferring its responsibility to mass media and propaganda (*tuyên truyền*) agencies, and for issuing unclear information regarding disease prevention, Dr. Trung also called attention to the very routine quality of a cholera outbreak in Vietnam:

> Following the statements of all the high ranking national health officials closely, we could only shake our heads. Not only because they speak in a way that's hard to understand, but they also make us doubt that they have a thorough grasp of the information. Specifically, like the statement in *Dân Trí*, in which Dr. Nguyễn Huy Nga, Director of the Department of Preventive Health [of the Ministry of Health], stated "We cannot believe that a type of epidemic which usually only happens in backwards (*lạc hậu*) places could occur right in the midst of the capital city, Hanoi." I'm extremely surprised that the director is surprised! Cholera has existed in our country for a long time, and has been written down on white paper with black ink since the 19th century. At the present time, every year in our country the number of cholera [cases] may rise and fall, but the average is around 1750 people; in that number there are around 20% from the northern provinces

[84] These emails were all composed in English. I have standardized their spelling and grammar.

[85] As this woman told me, when she visited her nongovernmental organization's field site in Hà Tây during the cholera outbreaks, the district Department of Preventive Medicine showed her a map of health problems, including a number of cases of cholera that rural-to-urban workers had contracted in Hanoi. This contravened the official story that rural districts, especially Hà Tây, represented the reservoir of cholera.

> and Hanoi. These numbers are very clear in all scientific articles about cholera in Vietnam [owing to] Vietnamese people have analyzed and published [them]. So how can he be surprised? [Phan Xuân Trung 2007]

While Trung's account of the annual incidence of cholera (which hovers around some 1,750 cases a year) appears overestimated by comparison to data reported by Vietnam's national agencies, this claim is nevertheless a strong one. Trung suggests that what was exceptional about the outbreaks was not their epidemiologically unusual quality but the disingenuous attitudes of shock that they engendered. Indeed, he is suggesting that the "epidemic" of 2007 barely satisfied the epidemiological definition of an epidemic, as it did not represent a substantial increase in the expected burden of disease. This statement verges on conspiracy theory – a comparison I make not to disparage Trung's perspective, but to note how deeply it reaches into the history of statistical representations of cholera in Vietnam. If the claim that 1,750 cases of cholera occur every year in Vietnam was accurate, this suggests that undercounting and/or underreporting is absolutely rife.

There were other, semantic concerns about counting the cholera cases during the epidemics, particularly regarding the term "acute diarrhea" (*tiêu chảy cấp*) or "dangerous acute diarrhea" (*tiêu chảy cấp nguy hiểm*) to describe the waves of infection traveling from the capital into surrounding provinces. These terms are medically and epidemiologically specious referents for clinical cholera: according to WHO protocols, a cholera epidemic may be declared after one case of cholera has been confirmed, after which point "it is not necessary to make a distinction between suspected and confirmed cases; all should be reported as cholera" (WHO 1992:5). Vietnamese law makes the same provision: Decision 4233 states that "A 'cholera epidemic' can be confirmed when at least one case of cholera has been confirmed" (Ministry of Health 2007b). However, the Vietnamese Ministry of Health continued to distinguish between laboratory-

confirmed cases and symptomatic cases of cholera long after the confirmation of the index case, and continued to use the term "acute diarrhea" to describe the epidemic. This imprecision in nomenclature appeared to be an effort to deny the seriousness of the situation. By using the term "cholera" in his blog articles and placing the term "acute dangerous diarrhea" in scare quotes, Trung was articulating a political challenge to state representations of the epidemic.

Whether or not one found the cholera outbreaks surprising in themselves, the state's management of this epidemic came as a sharp contrast to its prior approach to equally challenging events in public health. In 2003, the outbreak of Severe Acute Respiratory Syndrome (SARS) in Vietnam and neighboring countries in Asia demonstrated the success of Vietnam's national approach to the containment of a crisis-level infectious disease outbreak. Whereas China delayed reports of the rapidly spreading virus, Vietnam quarantined suspected cases and organized an inter-ministerial commission to coordinate disease surveillance and control, and was subsequently lauded for its compliance with international standards and its leadership in controlling the outbreak. Other successful strategies included proactive disease surveillance, the transparent communication of epidemiological information, and the use of mass media to disseminate information to the public rapidly (Borton, personal communication, 3 June 2010).

Between 2003 and 2009, despite occasional lapses in outbreak management, Vietnam was also praised for its implementation of international standards for controlling the H5N1 strain of avian influenza. When H5N1 first broke out, the state implemented poultry culling to reduce its spread, a measure which was challenged by the reluctance of small farmers to part with their livelihood. Ultimately, the government shifted to a policy of vaccinating birds, which international agencies had come to promote. Vietnam continues to report cases of H5N1, openly

communicating about the scope of disease and measures taken to control the spread of bird flu (Tuong Vu 2011).

These approaches also resulted in a substantial economic impact on the tourism sector. The SARS outbreak impacted the national economy significantly, with losses estimated at over US$220 million, or 1.1 percent of the nation's economic growth, compounded by 120,750 lost jobs (Curley and Thomas 2004:23), and avian influenza affected Vietnam's economy more seriously than that of any other country (Tuong Vu 2009:5). Given this recent experience, Vietnam would evidently wish to mitigate the adverse economic effects of a widely reported cholera outbreak.

The symbolic significance of these three disease outbreaks also influenced the Vietnamese state's approach to managing cholera. While avian influenza, SARS, and cholera all have the potential to spread rapidly and affect many people, cholera is strongly associated with the colonial period, war, and externally imposed poverty. By contrast, both H5N1 and SARS are new emerging infectious diseases; both are regionally prevalent, and neither originated in Vietnam. Responding to these less stigmatized diseases, Vietnamese health authorities focused on the practical steps of disease surveillance and control. Particularly in the case of SARS, the response was lauded for "transparency" which abetted swift disease containment. By contrast, official reactions to cholera in Vietnam revealed anxieties about the capacity of this disease to mar the national image. In some ways, cholera was more challenging to control: unlike SARS and H5N1, it cannot be effectively controlled by quarantine or mass chemoprophylaxis. Cholera is spread by infected persons, most of whom have no signs of illness: it is impossible to identify "healthy carriers" and restrict their movement.

But most of all, cholera is a symbol of anti-modernity and a reminder of previous dark

periods in the nation's history. Whereas SARS and H5N1 were, to a certain extent, symbols of Vietnam's integration into globalized trade and exchange, cholera represented filth and stagnation, the opposite of value. Disinvesting into the creation of statistical and medical knowledge about the epidemics, Vietnam's state health agencies attempted to do damage control by minimizing the seriousness of cholera's rapid spread, making no public requests for outside aid, and giving the impression that matters had not gotten out of control. They were nonetheless repeatedly forced to acknowledge that the disease could not be contained, and had to seek convincing reasons for enduring, recurring contagion.

Blaming Street Food and Street Vendors

When forced to speak directly to the issue of cholera in North Vietnamese cities and towns, public health authorities gravitated towards the most politically convenient and credible targets for blame. These included the individual practice of a few social groups: urban small traders, people in rural areas, "backwards" behaviors, and a lack of "modern" knowledge and practice of sanitation. They also included a number of taboo food products. While these accounts were not rigorously demonstrated, and even, in some cases, ran counter to common sense, they gained rhetorical power by drawing from cultural schemata that are widely held and referenced in making sense of social disorder.

Of all these potential causes of cholera, food products were named the most frequently. In 2008, when I was beginning to research the epidemics, this struck me as strange, given that cholera is typically a water-borne disease. When cholera is discovered in association with food, the original source of the transmission is contaminated water. Nevertheless, the constant repetition of suspicious food products developed into an idiom of blame and culpability so

thoroughly reinforced that a nonspecific but naturalized association between contaminated food products and unhygienic behavior and cholera came to seem almost self-evident. By spring 2008, the Ministry of Health had named a diverse array of food products – including blood pudding (*tiết canh*), pork intestine (*lòng lợn*), raw vegetables, *nem chua* (fermented pork roll), ice, fruit, shrimp paste (*mắm tôm*)[86] and dog meat (*thịt chó*), consumption of all of which was allegedly associated with cholera infection. Epidemological indistinction and confounding are evident in memoranda such as the following:

> The Health Ministry said 15 percent of the nearly 800 cases reported so far were positive for the cholera bacterium. Health authorities were urgently isolating infected areas and putting patients in quarantine, officials said. The ministry said contaminated locally made shrimp paste or a raw fish and vegetable combination and fermented pork roll were the likely cause of the diarrhea. [Reuters 6 November 2007]

The cholera outbreaks engendered frequent indictments of the informal food trade, articulated from diverse social locations. Particularly, news articles with titles such as "Street Food Can Quickly Cause a Diarrhea Epidemic to Spread" (VnExpress 2007) had a far-reaching effect. I suggest that official messages about the risks of street food were in part persuasive because they dovetailed with popular theories of disease causation and contagion – specifically, that environment and weather can cause disease independent of bacterial contamination. While respondents' interpretations of what caused the risks associated with street food were not in conformity with the biomedical, scientific, and behavioral models used by public health officials, they nevertheless conveyed strong reservations about food sold outdoors. As the below exchanges with different Hanoian women show, the outdoor atmosphere is understood not as neutral, but as potentially pathogenic.

[86] A salty condiment served alongside a variety of dishes in north Vietnamese cuisine.

ML Do you eat street food?

Cô Yên No, my house doesn't buy snacks outside in the street, we don't have money to eat snacks, to buy unnecessary (*lăng nhăng*) things out in the street. In the morning I go out carrying a hand-basket to the market to buy enough to eat for one day, that's all.

ML If you eat street food how do you know if it's safe?

Cô Yên It can't be safe. It's dusty[87] and the atmosphere flies around [the food] as it hangs there; pollution goes in the food, so how can it be safe?

ML Why is food cooked at home safer that street food?

Cô Yên Food cooked at home is safer, it's more guaranteed because we boil and cook it, and after boiling cover it. On the street they hang it out in the wind (*phơi ra gió*), and the atmosphere and everything in it flies in – so how can it be as safe as at home? – Đỗ Thị Yên, 55 years old, Hoàng Mai district, Đại Kim ward, 1 March 2010.

This model of causality, implicating miasmatic contamination of food products, elegantly elaborates on the official models of cholera contamination, both underscoring and exceeding the logic by which news reports suggested that cholera had appeared in Vietnam. The sense that cholera could be communicated ambiently struck a chord with many of the individuals who spoke with me. In similar terms, another respondent suggested that the airborne transmission of cholera in a neighborhood was another possible vector for contagion:

ML Do you know any of the causes of cholera?

Chị Nhung I do, I know that causes of cholera were, for example, people going to the washroom carelessly, and that it also spreads cholera via the atmosphere or in running water. Or they irrigate the vegetables that we eat with raw feces, and if you eat them you'll be infected.

ML If you breathe the air in your area like this can you get cholera?

[87] The perception of street food as contaminated by its exposure to the surrounding environment and atmosphere is concretized in the slang term "dust food" (*cơm bụi*) to refer to prepared food sold outside.

Chị Nhung If there are people who have cholera near you, then of course you can. Because the bacteria "lives" very spaciously (*sống rất rộng*)… – Phạm Hồng Nhung, female, 40 years old, Hoàng Mai district, Định Công ward, 1 February 2010.

Foods exposed to the environment – whose attributes included heat, wind, insects, and the polluting atmosphere – were frequently cited as potentially dangerous. However, it was not just the outdoor environment of street food vending that worried respondents. Interview respondents' remarks suggested that virtually all food products sold outdoors were perceived with suspicion, and that salespeople in the informal sector were perceived as being unscrupulous and profit-motivated. In the below interview, a woman commented on how unscrupulous business practices translated into health risks.

> The most unsanitary is new rice (*cốm*) … If you were to see you would never dare eat outside in the street. *Cốm* which is not sprinkled with water is the safest of all. But the people who make it have to sprinkle it with water so it'll be heavy. They mix it with some dye to make it up into a patty so they can go and sell it. In hot windy weather like this, they make the *cốm* lighter, and they'll flood it with water, and you don't know the source of water that they carry and where it came from. It's terrible (*chết khiếp rồi*)! I saw that and I have always remembered it afterwards, it gives me goosebumps! – Đỗ Thị Yên, 55 years old, Hoàng Mai district, Đại Kim ward, 1 March 2010.

Other respondents mentioned the role of behavioral factors and environmental exposure as explanatory factors in the foodborne transmission of cholera. Typically, these included moral judgments alongside models of disease causality, indexing disapproval both of individuals who were responsible for preparing and selling unsafe products as well as those who lacked the common sense to avoid potential risks.

ML Do you know what habits can lead to cholera infection?

Cô Vân Men often eat blood pudding and drink alcohol. Beer and alcohol

> cause a lot of heat. Right? Beer and spirits out at a street restaurant (*quán*), eating improperly (*bậy bạ*). Out at a street restaurant, the food they make isn't clean and fresh. They buy it cheap and sell it dear, so it's easy to get sick. – Nguyễn Thị Vân, 48 years old, female, Hoàn Kiếm district, Hàng Buồm ward, August 27 2010.

Ms. Vân suggests a number of causes all organized around the role of street food in spreading disease, beginning with a humoral cause, i.e. her suggestion that drinking beer and alcohol causes "heat" to be produced and accumulate in (male) bodies. She goes on to note that drinking alcohol and eating blood pudding at a street restaurant are disorderly forms of consumption, and ends by implicating the dishonest tendencies of small traders. Male social habits, raw food, the public sphere, alcohol, small traders, and "heat": the culprits run together associatively, adding up to an explanation which, while not biomedical, is no less reasonable than that of the explanations posited by health authorities.

ML Do you and your family do anything to prevent cholera?

Bác Bảo Yes. [We] always have to worry about eating and drinking hygienically. Clean water, cooked food, drinking boiled water. When buying produce, buying fresh things, not buying randomly (*lung tung*). If we don't buy randomly (*bừa bãi*) outside on the street, we can prevent it. – Lê Văn Bảo, male, 62 years old, Hoàn Kiếm district, Hàng Bông ward, 16 August 2010.

ML Do you know what things cause cholera?

Bà Hiền The source is men eating blood pudding and pork intestine that's been left outside in the street, flies and bluebottles burrow into it easily. It's not hard to get cholera at all. Keeping your body [clean] is the main thing, if you eat randomly and get sick then you just have to suffer it. – Nguyễn Thị Hiền, female, 87 years old, Hoàn Kiếm district, Chương Dương ward, 17 August 2010.

ML Do you and your family do anything to prevent cholera?

Ông Nghĩa Pretty much prevent it as the people [health authorities] require, not eating shrimp paste and blood pudding and pork intestine, not

eating raw things. From the time that they propagandized us as such, then as far as eating those things go, we just keep our mouths shut (*giữ mồm giữa miệng*) and don't eat randomly (*bừa bãi*). – Nguyễn Văn Nghĩa, male, 73 years old, Hoàn Kiếm district, Hàng Gài ward, August 24, 2010.

ML How do you and your family prevent diarrhea?

Anh Trung When there's some kind of outbreak here they come down to advise [us], give us some chemicals that we mix in the water we use for daily activities. And they advise us not to eat some products. [So] then we just buy a number of simple things and bring them back to prepare them, we don't go out and eat randomly. – Phạm Vũ Trung, male, 38 years old, Hoàng Mai district, Thịnh Liệt ward, March 3, 2010.

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By referring to the purchase of fresh or prepared food from informal vendors as a form of erratic, "random" (*bừa bãi, lung tung, linh tinh*) commerce and consumption, my respondents conveyed the degree to which they understood these practices as socially or morally disorderly as well as a constituting a potential health risk. This type of individualistic, irrational, "subjective" (*chủ quan*) behavior was implicitly contrasted to food purchases and preparation mediated by the institutions of friendship and family relations. As my respondents emphasized, buying from "known" vendors (*mua ở người quen*) and eating meals at home with family members constituted safer, more respectable forms of sociality and consumption. These beliefs, which are underpinned by the concept that "random" or "disorderly" types of consumption can endanger health, demonstrates the profound imperative for certain forms of social and public order.

Such ordering of private and public conduct, however, has become increasingly difficult to enforce since the *đổi mới* reforms of the mid-1980s, which sanctioned private ownership and private enterprise. Among other social changes, it has become a fact of life that food is prepared and sold by unlicensed small traders on virtually every square inch of Hanoi's sidewalks and streets. While the sentimental ideal of meals cooked at home may still be observed in some

professional settings, where lunch breaks can permit traveling home for meals, the increasingly flexible work rhythms of city life mean that workers and students often eat near work or school instead. Therefore the informal food sector represents many other social changes; it also provides employment to many people, most of whom are women.[88] Snack foods as well as staples are available throughout the city from a variety of more and less established vending points, some so mobile that they can be packed onto the backs of bicycles or into the baskets of shoulder poles. Others are more like small restaurants, with a fixed place on the street and regular hours of business.

While these scenes are sometimes celebrated as a picturesque aspect of the city's commercial energy and traditional culture, during the cholera epidemics, media portrayed the informal food sector as a sinister institution. Health advisories cautioned against the consumption of street food and slandered vendors' standards of hygiene and safety. While articles about the cholera epidemics were sometimes illustrated by images of hospitalized patients, they more often appropriated images of the urban environment: drainage ditches, roadside food stalls, street vendors with merchandise, and unsuspecting diners at sidewalk restaurants. It seemed that besides providing meals and produce to city residents, the informal food sector was made a convenient source of culpability for a problem whose causes could not be easily discerned and whose solutions could not be easily pursued. An article published in VnMedia in 2009 is worth quoting at length for its vision of how cholera might be spread through the city's social and physical environment:

[88] There are, according to Lê Anh Tuấn, Director of the Municipal Health Service (*Sở Y tế Hà Nội*), 16,000 informal street food vendors in Hanoi, only 40% of which have food hygiene and safety licenses ("Một Trăm Độ" blog, April 14 2008). As a study team surveying Hanoian street vendors (in all sectors, not only food) recently found, vendors are also almost exclusively female, have an average educational attainment of seven years, meaning that they "lack

Hygiene in street restaurants is always a problem that many people are interested in, most of all during the time at the end of the summer when it is hot and sunny and infectious diseases begin to appear. Recently, the media has brought forward some news about the first case of positively confirmed cholera in 2009, but subjective habits and psychology with respect to diseases have kept many people from losing their taste for finding places to eat along the side of the road.

Subjectivity and Lack of Knowledge (*Chủ quan và thiếu hiểu biết*)

At 11:30 in the afternoon, office workers from banks and large companies headquartered on Hoàng Quốc Việt street, such as Seabank, Vietcombank, Techcombank, and the life insurance company and AIG, flock into Nghĩa Tân market, opposite the rather quiet atmosphere in the KFC fried chicken restaurant right nearby. Ms. Hà Vân, an employee of Vietcombank, shares: "The market is face to face with the office, so every afternoon I and all my co-workers come in to eat lunch. They have everything here."

In the afternoon and at the end of the mid-afternoon hours is the moment that Nghĩa Tân market is most crowded with, and the thing that's worth mentioning is that just a few kilometers from the market is where the year's first case of positively confirmed cholera situation, caused by dog meat and shrimp paste and raw vegetables was discovered. Of course, it doesn't much influence the effervescence in this market area. Rows of pork intestine and noodles with shrimp paste don't dissuade people from coming in and eating. When asked, a number of vendors at the market respond unpleasantly: "There wasn't anyone infected with cholera here, so there's nothing to worry about."

Beyond some people's subjectivity and psychology of "disease will leave me alone" (*bệnh nó chừa mình ra*) there are yet some others who are "naïve" to the point of being hard to describe. Ms. Ly, worker in a sewing company, said that "Cholera is also a type of diarrhea, if you take Becberin [an herbal medicine], it stops it immediately." With precisely this type of "free" (*thỏai mái*) thinking, Ms. Ly and not a few people still sit innocently on the side of the street, enjoying any dishes that they like.

And as the owner of the "mobile" (*di đọng*) shop selling shrimp paste and noodles from baskets on the streets of the old quarter expressed, "There's still no one who has proven that shrimp paste contains cholera vibrios, and so if clients don't hesitate to eat it, then we vendors don't hesitant to sell it." Vendors want to sell their wares, but customers are too "innocent": consumers continued to approach the baskets of merchandise and eat not a few unhygienic items in this way. [VnMedia 2009a]

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the skills and education necessary to find formal sector employment," and are mostly not permanent residents of Hanoi (Jensen and Peppard 2003:72).

This article, and others like it, was aligned with a tendency in some national media outlets to shed suspicion on informal trade and worry about the health of middle-class and professional consumers, who were often figured as poorly informed or easily deceived. Its disapproving attitude towards informal commercial spaces was also frequently echoed in anxious accounts of everyday urban scenes which, to the educated reader, could be seen to portend ominous events. However, this article is somewhat distinct from other accounts of cholera "risk" in its psychologization of disease risk: presuming insight into the reasoning of a hypothetical worker, the author suggests that the naivete and self-indulgence of working-class people, combined with the willed ignorance and self-interest of small traders, are important drivers of the cholera epidemic.

These themes dovetailed with media attention to dangerous merchandise and items of "unclear" origin (*không rõ nguồn gốc*); such articles expressed wariness and even hostility towards the allegedly knowing purveyors of risky commodities.[89] Media frequently repeated the theme of chemical contamination or adulteration of food products – like dried squid (made out of rubber or tainted with bleach), sunflower seeds (dyed red with carcinogenic dye), prepared street food (fried in carcinogenic grease), alcohol (laced with contaminants) and candy (toxic) – inspiring fear, anxiety, and moral indignation. Such articles often emphasized the unscrupulous tendencies of vendors (implicitly, poor female rural-to-urban migrants) who "cover the eyes" (*bảo khuất mắt trông coi*) of their customers.

[89] Though many of these articles aimed specifically at Vietnamese problems, owing to nationalistic disputes with China as well as China's reputation for cranking out mass amounts of low-quality products, Vietnamese consumers regard Chinese merchandise ("*hàng Tàu*") with suspicion and contempt. For example, friends told me not to buy apples that were unusually large, because they were no doubt grown by Chinese cultivators using chemical fertilizers.

Figure 5: "The hand holds spring rolls, then grasps money…" Figure 6: "Noodles with shrimp paste sold directly on the side of the road." Source: VnMedia 2009b.

Discussions of street food with interview respondents often elicited statements indicating distrust of foods produced and sold in public, and the conviction that food producers fail to protect the safety of consumers. When I asked "Is street food as safe as food prepared at home?" men and women frequently replied rhetorically "How could it be as safe?" before opening an explanation of the reasons why food outside the house represented an unknown, if not a threat. Comments highlighted the risk of unseen things – whether invisible bacteria or hidden lapses in food safety procedures – potentially making prepared food unsafe.

> You can't know if you see it with your eye, you can't follow how they make it from the beginning, so even if you see it with your eyes you can't tell if it's safe or unsafe at all. If the street is dusty, and there are chemicals, then I don't dare to be certain about the bowl and chopsticks they use, if for example people who have that disease eat the food, and the people wash the bowl and the chopsticks less carefully than I would. I can't possibly see the bacteria. [That] disease spreads from one person to another, so I think that it's not clean, the best is not to eat food on the street. – Phạm Hồng Nhung, female, 40 years old, Hoàng Mai district, Định Công ward, February 1, 2010.

The sense of mistrust and perceived environmental risks posed by foods vended outdoors is amplified by the fact that street food is prepared and handled by profit-motivated strangers in a

deregulated public sphere. Vendors were presumed to be careless at best, malicious at worst. My interview respondents were also often enthusiastic to relate stories of untrustworthy food products, although they did not always name the food products that were scapegoated in the news. For example, in the following excerpt, my very first interview respondent, Mrs. Nhung, impressed me by confidently nominating many "unsafe" food products and food handling practices, a number of which had never come to my attention through other channels.

> ML What foods do you think are most unsanitary when you eat them outside [the house]?
>
> Chị Nhung Bread is the most unsanitary, because bread dough is the most unsanitary. Now they have machines so it's better but the people may drop it, so it's very dirty. I've seen bread that's black because it's dusty and dirty inside. As for raw vegetables, if you don't soak them in salt water and don't wash them thoroughly, they have raw feces in them, or the pesticides they were sprayed with may remain. You can soak them and still not manage to clean them completely. (…) And as for *bún* noodles, now certainly they still have borax in them. Meat, now, doesn't have bran added to increase the weight? (…) Sometimes I buy a piece of meat and bring it home and it's got a very bad smell, I don't know what chemical, but I think it's a fattening chemical, that chemical that makes it grow big quickly.
>
> ML What health problems are caused by eating food that isn't hygienic?
>
> Chị Nhung Mostly diarrhea, and after that, food poisoning. (…) If you eat anything that isn't hygienic, you'll be sick for sure. – Phạm Hồng Nhung, female, 40 years old, Hoàng Mai district, Định Công ward, 1 February 2010.

In another interview, Mrs. Thanh suggested some reasons why the food products most commonly implicated in cholera outbreaks were unhygienic:

> … As for people who people sell noodles (*bún*): shrimp paste isn't safe, and the offal stores and their blood pudding – the people (*người ta*) make them in a way that is not as safe as the way I make [at home]. They

> don't cook raw vegetables carefully like I do at home. They just wash them in a haphazard way. – Nguyễn Thị Thanh, female, 33 years old, Hoàng Mai district, Đại Kim ward, 1 March 2010.

Here, the use of the term "*người ta*" to refer to vendors emphasizes the threatening sense of anonymity that accompanies the exchange relation. The remark by Mrs. Lý, cited below, connected these attributes specifically to the rural-to-urban migrants she believed were responsible for poor hygiene in the prepared food sector.

ML Do you ever eat street food?

Cô Oanh Never, I feel that people (*người ta*, meaning vendors) pull the wool over your eyes (*bảo khuất mắt trông coi*). I'm afraid that it is stale, or dirty, so I don't dare to buy it, I just buy fresh things to bring home. The kids are still little, so I have to be careful. – Trần Kim Oanh, female, 51 years old, Hoàng Mai district, Đại Kim ward, 1 March 2010.

> Even when they say it's safe, I think it's not safe, because the people cook food left over from the day before that they refrigerated, so there are flies, generally all the children working there have come up from the country, they don't make things clean like I (*mình*) do. – Phan Thị Lý, female, 51 years old, Hoàng Mai district, Tương Mai ward, 7 March 2010.

During the cholera outbreaks, media images consistently drew connections between diverse street foods and cholera. In one report, a salesperson in Hồ Chí Minh City was shown dispensing a beverage, with the caption "Vendors Conceal Cholera," despite the fact that vended beverages were never named as a cholera vector (Thanh Niên 2010). An image from VnMedia (2009b) showed a woman selling pork sausage; another from Channel News Asia (2008) showed a woman vending vegetables; pork sausage was never included in any list of potentially dangerous foods, and vegetables were only mentioned in passing. Like most of the images that illustrated stories about cholera, these photos of women selling products implicitly framed cholera as a threat posed to the public by the activities of working-class rural women.

Such representations are continuous with decades of historic portrayals of independent petty traders, who been stigmatized continuously since the socialist period. Under the former economic regime, they were perceived as a "pariah capitalist class" of the state-managed economy whose activities "dramatized state failures to provide for citizens' material needs"; in the post-liberalization period, traders have been stigmatized as a symbol of pre-modernity and a "backward subsistence economy" outside the control of the state (Leshkowich 2005:187). As Leshkowich shows, hostile perceptions of street traders are underwritten by an implicitly gendered politics that sees economically agentive women as productive of "feminine disorder" in the public sphere. The often harsh execution of measures against urban street vendors is justified by party-controlled media as protecting "clear pavements, safe roads, and cleaner cities" and creating "the image of a civilized city" (Leshkowich 2005:198).

However, what is novel about these representations of traders is their literalization of the threat that rural women are imagined to pose to the physical well-being of the urban body politic. By constructing vendors as "insanitary subjects" (Briggs and Mantini-Briggs 2004) connected to the spread of infectious disease, the cholera narratives took this discourse a step further, positing vendors as not just a nuisance or an eyesore, but a disease vector threatening the entire population. These models of causality were widely subscribed to, I suggest, because they merely extended historically sedimented perceptions of urban street vendors – poor, rural women who occupy public space to sell without a license – as figures of social, behavioral, environmental, and economic disorder. Attributing cholera to another problem that mars the national image, these accounts naturalized the antisocial quality of vendors and their association with premodernity, ignorance, and dirt.

Blaming Dog Meat, Shrimp Paste, and "Culture"

> Eating dog meat or other food from outlets that serve it is linked to a 20-fold increase in the risk of developing the severe acute watery diarrhea commonly caused by the cholera bacterium, said Jean-Marc Olivé, the World Health Organization's representative in Vietnam. – Nguyen and Bennett April 23, 2008

While many theories regarding the causes of cholera circulated during and after outbreaks, the state's most widely circulated model of cholera causality was a hypothesis positing that "dog meat and shrimp paste," two foods often eaten together, were the chief culprits in the enormous cholera outbreaks of fall 2007 and spring 2008. These foods were still being implicated publicly and privately in 2010 while I was conducting interviews: apparently, this model was accepted by most laypeople and many scientists and policymakers. The question "Do you know what caused the cholera at the end of 2007?" often prompted my interview respondents to recall dog meat and shrimp paste specifically, as well as other foodstuffs – particularly, "raw" foods (including raw leafy greens and the popular dish *tiết canh*, made of raw duck's blood), and ready-to-eat foods purchased on the street. While respondents frequently named foodstuffs as potential sources of diarrheal illness or cholera – either by naming specific dishes or by citing "eating and drinking at random" or "eating carelessly" (*ăn uống lung tung*/*linh tinh*/*bừa bãi*) – other risk factors, such as drinking contaminated water or failing to wash hands before eating, were comparatively rarely named. The statement that "dog meat and shrimp paste cause cholera" was repeated so frequently during the periods of active contagion that it became a public health truism.

Foreign media appropriated this bit of epidemiological trivia as an opportunity to exoticize the allegedly disgusting and brutal aspects of Vietnamese society, a perspective which

overlooked the nuanced local significance of this food. Although some Vietnamese people qualify eating dog meat as a form of "disorderly" or "random" eating, eating dog meat in Vietnam is a strongly socially structured practice, signifying a nexus of gendered, regional, class, and national identifications. Dog meat is considered a "hot" food (cf. Rydstrøm 2004:83-84), and its consumption is therefore generally reserved for men, who eat dog meat primarily in recreational contexts in the public sphere. Literature on the cultural dimensions of dog meat eating is limited, but a query posted to the Vietnamese Studies Group listserv prompted an outpouring of observations and stories, with foreign and Vietnamese researchers weighing in on dog meat's gendered, class, and religious associations.[90]

> (…) from my experience it is a very 'manly' thing to do. Men eat it while drinking and 'nhau.'[91] I've also heard that it is supposed to have a high degree of testosterone as to help boost masculinity. I don't know if women regularly engage in eating it at all. (Khai Thu Nguyen, personal communication, November 30, 2009)

> Between 2006 and 2008 I participated in three different drinking groups of working-class, middle-, and upper-class men. I did not see dog meat served in the upscale restaurants where my wealthy male informants socialized and drank. The men most of whom have eaten dog meat before do think dog meat as meat of class, particularly at their fancy drinking establishments. By this, I do not mean that rich people do not eat dogmeat if they have a preference for it but they would have to consume it at other venues. In fact the eating establishments where dog meat is served are mostly called 'quan' rather than 'nha hang.'[92] (Binh Ngo, personal communication, December 2, 2010)

> My impression is that dog eating can become a male ritual followed by going to a 'karaoke om' or a brothel together. (Personal communication off the record, December 2, 2010)

> I heard from the Viet truck drivers that they avoid eating *Thịt chó* [dog meat] and *tiết canh vịt* [duck blood] before long trips, as it can bring bad luck. While many

[90] This thread is archived at http://www.lib.washington.edu/SouthEast Asia/vsg/elist_2009/Dog%20Meat. html.
[91] *Nhậu* is a leisure activity consisting of hanging out in all-male company while enjoying snacks and beer outside the home.
[92] *Quán* references a more informal, often outdoor, eating establishment; *nhà hàng* suggests a sit-down restaurant.

> people in the North eat dog, it seems like Southerners don't eat it much, and you are right that for a Buddhist, eating a dog is really a sin. (Dinh Lu Giang, personal communication, December 2, 2010)

As the above reflections indicate, dog meat consumption is a slightly taboo topic that inspires a range of moods – morbid curiosity, pleasure, black humor, and reflexivity.

Despite its status as a somewhat socially marginal practice, dog meat eating in North Vietnam has been very common since at least the late 1980s (Hữu Ngọc 2008:354). In Hanoi, dog meat restaurants are concentrated on Nhật Tân and Nghi Tàm streets; the former is sometimes jokingly referred to as the "Unified Dog Meat Enterprises of Nhật Tân" (*xí nghiệp liên hiệp thịt chó Nhật Tân*). It's also common to see roadside dog (and cat) restaurants in the provinces. A few blocks from my apartment, part of the daily market included tables of roasted, skinned dog carcasses sold for home consumption. Typically, though, dog meat is eaten as a treat and at a restaurant, thoroughly cooked and served with beer, *lá mơ* herb and other raw vegetables, and shrimp paste; it is not consumed as an everyday meal, like chicken or pork. While many Vietnamese people refrain from eating dog meat on moral or aesthetic grounds, enthusiasts describe its flavor as uniquely, even addictingly, savory. A university colleague of mine happily remembered the occasions during the subsidy period when he would make a special preparation of dog intestine as a treat for their fellow starving university students, using aromatic herbs and garlic for a flavor unrivaled by any dish. "You have to eat it while you're living," he explained, quoting a verse of folk song (*ca dao*) "because you don't know if they have dog meat in Hell."[93]

According to sociologist Nir Avieli, the practice can also expresses the eater's affiliation with North Vietnam,[94] even when individuals in southern and central provinces eat dog meat. In

[93] "*Sống ở trên đời biết miếng dồi chó/Chết xuống âm phủ biết có hay không?*"

[94] Commentary by Europeans traveling in the region suggests that dog meat consumption has been a part of Vietnamese culture since at least the late 18th century (Listserv posting, Erica J. Peters, April 9, 2006).

his study of consumption practices in Hội An, Avieli noted a recurring association of dog meat with regionalism. Such associations in Vietnam are politically as well as culturally freighted.

> (…) there were repeated insinuations that eating dog-meat had to do with the North and the Northerners. Moreover, these Northerners were somehow related to the [Hanoi] regime. Thus, it was repeatedly suggested, explicitly or implicitly, that eating dog-meat has a political measure to it and that, when eating (or rejecting) dog-meat, the diners make a political statement. [Avieli n.d.:16]

This observation suggests that dog meat consumption may also serve as a marker of some educated middle-class men who are Party members. However, literatus Hữu Ngọc argues that "'thinking' folks in general do not eat it" (2008:357) – suggesting it is a dish more associated with the laboring class. This indeterminacy surrounding class identity (can Party members be working class? Are "thinking" people middle-class?) indicates the degree to which the formation and definition of socioeconomic classes in contemporary Vietnam remains open-ended. Further, the association of dog meat with cholera seems to allow a kind of slippage in assigning blame, whereby working-class or middle-class people may be presumed to be at risk – working-class people are imagined as the natural target for a disease of "backwardness," while middle-class people who fail to uphold appropriate standards of behavior may also be exposed.

Besides its somewhat complex class associations, dog meat eating appears to index a felt Vietnameseness which references the pleasures of the body and sociability more than the ethics of sacrifice and hierarchy that inform the construction of the state's patriotic ethos. The phrase *quốc hồn quốc túy* (national spirit) is sometimes used (cf. Vũ Thế Long, personal communication, December 8, 2010), albeit ironically, to invoke the significance of dog meat consumption to its partisans, as are affectionate nicknames for the substance such as *thịt cầy*, *cây*

còn, and *mộc tồn*.[95] However, consuming dog meat is also a culturally disavowed activity, and is regarded as especially unethical behavior for Buddhists, who perceive dogs as possessing nearly human subjectivity. In a short story by the *đổi mới*-era writer Nguyễn Huy Thiệp,[96] a mandarin eats dog meat en route to offering prayers at the pagoda, a gesture which expresses his corrupt and arrogant character (Nguyen Huy Thiep 1992:70).

Given these proscriptions, as well as dog meat's status as a recreational or luxury food item, this dish is not consumed every day. As one health researcher who disbelieved the official "dog meat and shrimp paste" story suggested to me, because dog meat is consumed infrequently, and by only a fraction of the population, it was unlikely that dog meat could have caused such a widespread outbreak. For the same reasons, she suggested, it was also expedient to implicate dog meat as the vector of contagion, because to do so would not cause panic or inflict widespread economic harm. While "it would have been better if the health agencies had picked something less obviously wrong" to blame for the cholera, as my friend suggested, in some ways it was an opportune choice: the moral and social opprobrium around dog meat eating ratified the link to cholera.

With respect to shrimp paste (*mắm tôm*), a salty, strong-tasting condiment that is always consumed with dog meat, the epidemiological connection to cholera appeared weaker yet, but Minister of Health Nguyễn Quốc Triệu requested the public to "temporarily stop eating shrimp paste until the epidemic is over" (Dân Trí 2007). Decision 4233 of 2007 also specified shrimp

[95] *Còn cây* is a play on the term *thịt cầy*, formed by swapping the words and substituting "còn" (remaining) for "con" (animal), which has been substituted for "thịt" (meat). This form of word play in Vietnamese is called *nói lái*, and is somewhat similar to Cockney rhyming slang in its substitution of nonsense words or phonically similar words to create a new word or phrase. The phrase *mộc tồn* is a further play on the phrase *cây còn*: *mộc* is the Sino-Vietnamese word for *cây*, "wood"; *tồn* is the Sino-Vietnamese for *còn*.

[96] Nguyễn Huy Thiệp's prose, which rejected the formal and ideological commitments of socialist realist representation, has been both condemned and praised for its blunt portrayals of characters, for its naturalistic

paste among the foods about which the health services should issue warnings. The common-sense appeal of this request was very strong: because it is prepared and served raw, shrimp paste is considered by many Vietnamese people to be "unsanitary" (*không đảm bảo, không hợp vệ sinh*).

> ML — Do you know what causes diarrhea?
>
> Cô Duyên — There are many things that cause diarrhea, like sewer drains can have bacteria that cause diarrhea. Generally speaking, everything should be clean. Specifically, like the bathroom, you have to clean it so it's really clean. That's for the part of keeping clean; for the part of eating and drinking, for the last few years they've been advising not to eat shrimp paste.
>
> ML — About shrimp paste, have you been informed (*được tuyên truyền*, lit. "propagandized") not to eat it?
>
> Cô Duyên — Being propagandized is the main thing, then after that, the people around here also have consciousness (*ý thức*) to not eat it, and no one sells it. Now almost everyone here doesn't eat shrimp paste. – Nguyễn Thị Duyên, female, 50 years old, Hoàng Mai district, Yên Sở ward, 12 March 2010.

However, shrimp paste is also so salty that, as the head of one health organization informed me with amusement, "No self-respecting *Vibrio cholerae* would ever live in *mắm tôm*!" Another scientist told me that a colleague at a state institution had attempted to culture *V. cholerae* in shrimp paste, but the findings were null and never saw publication. An analysis to disambiguate the respective implication of dog meat, shrimp paste, and raw vegetables to cholera demonstrated that despite the fact that 95 percent of cholera patients had eaten shrimp paste, the foodstuff did not have a strong association with cholera (Tran Minh Nhu Nguyen et al. 2008:16). Even after shrimp paste was permitted back into commerce in late 2007, the Ministry of Health

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representation of social relations; for reproducing idiomatic, vulgar speech absent of triumphalism; and for its depiction of antiheroic themes.

refused to issue an apology for its mistake, and provided an appeal to the value of "life" as justification: Director of the Department of Preventive Health Nguyễn Huy Nga stated "The people sympathize with us [*thông cảm*]; in the time of an epidemic, human life (*mạng*) is important" (Nguyễn Văn Tuấn 2007b).

A political cartoon published in 2007 satirized the implication of everyday causes and the health services' conflation of correlation with causation. In the first panel, the politician (epidemiologist?) exclaims to a flustered physician "Strongly forbid all the citizenry from brushing their teeth! Destroy toothpaste! Confiscate toothpaste!" In the second panel, he explains to the credulous doctor: "Because 100% of diarrhea patients used toothpaste to brush their teeth before becoming sick!"

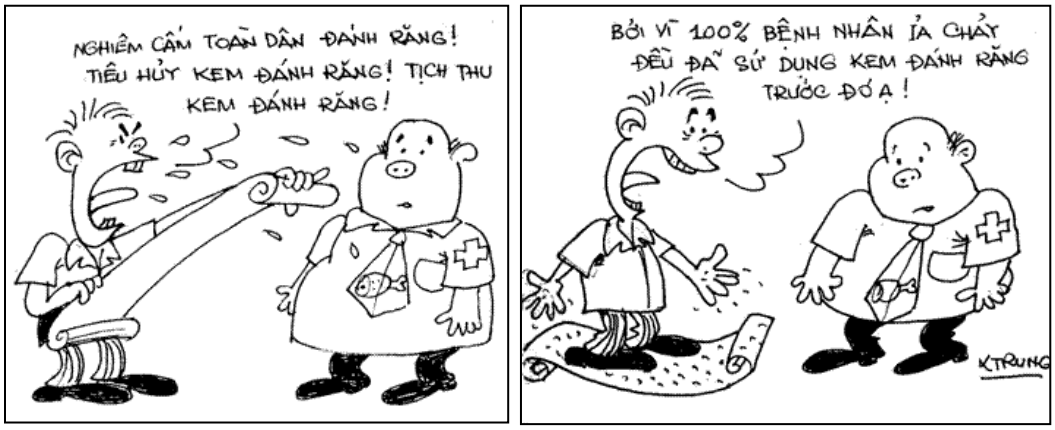

Figure 7: Political cartoon, 2007. Source: Ykhoa.net 2008.

The "dog meat and shrimp paste" hypothesis raised a number of other questions: for example, how could dogs have become infected with cholera, a disease which is only known to affect humans? If dog meat was the primary vector, why didn't cooking kill the bacteria? What about the raw vegetables that are always served alongside dog meat? I noticed that health experts who endorsed the dog meat and shrimp paste hypothesis appeared annoyed when I asked questions like these, and then went to impressive interpretive lengths to shore up their

explanatory models, often recruiting "culture" to help fill in the gaps.

For example, when speaking to scientists who had more confidence in the original reports of shrimp paste's relationship to cholera, I followed up the question of whether it was realistic to believe that a food product that was at least 30 percent salt could in fact be a reservoir for cholera bacteria. Some insisted that it was likely shrimp paste diluted with unsafe water that had sickened customers, which was intended to prevent an easy acquittal. This hypothesis was publicly circulated in fall 2007 as theories of contagion continued to percolate. One Dr. Nguyễn Lân Dũng, a national delegate from Đăk Nông province, addressed it publicly with irritation:

> The Minister of Health said that if shrimp paste is 6% salt then the cholera vibrios can survive for five hours. But shrimp paste isn't 6% salt, it's at least 22-23% salt! So then they say the water added to shrimp paste is dirty. As such, then you must say "The water added to shrimp paste is the cause of disease"! [Phan Xuân Trung 2008]

Beyond Dr. Dũng's politically inconvenient observation, a number of Vietnamese and foreign friends of mine working in public health agreed that it seemed unlikely that shrimp paste, watery or full-strength, could have anything to do with cholera. Regular shrimp paste was too salty, and, some hypothesized, consumers would be unwilling to use shrimp paste that was diluted to the point of becoming vulnerable to bacterial contamination. Here, as in many areas of the epidemiology of cholera, scientific reasoning turned into conjecture about "culture," that elusive province of locals and "the people."

In another attempt to hybridize epidemiology with "culture," a World Health Organization official averred in a conversation that she had seen a day-by-day breakdown of cholera cases whose numbers appeared to rise and fall in synchronization with the lunar calendar. She suggested this was evidence for cholera's positive correlation with dog meat consumption (Personal communication, 22 March 2010). As other sources had suggested,

Buddhists refrain from eating dog meat, understanding it to be unlucky, sinful, or polluting, but individuals who break this rule tend to reserve consumption for the end of the lunar month [97], when only a few more days would be risked.[98] The official urged me to have a look at the daily progression of cholera case counts to see this curious trend for myself. Though the National Institute for Hygiene and Epidemiology never responded to my request for the relevant data, a spreadsheet of unpublished epidemiological data provided to me later in 2010 by the Field Epidemiology Training Programme did supply some detail (Tran Minh Nhu Nguyen, personal communication, 6 April 2010). Two major waves of cholera occurred, in fall 2007 and spring 2008, and were followed by a period of low case counts reported continuously from June 2008 to December 2008.[99] However, it would have been extremely difficult to determine just by looking

[97] Or "in the second half of the lunar month," a practice which "Vietnamese believe…will ward off bad luck (Bennett and Nguyen 2008). Tuan Cuong Ngo et al. phrase this slightly differently, suggesting that "In Vietnam, people never eat dog meat for 2 or 3 days at the beginning of every lunar month, because they believe that eating dog meat at the beginning of the month is inauspicious. This custom reflects the low incidence of acute diarrhea in the first two weeks of the lunar calendar (data not shown)" (Tuan Cuong Ngo et al. 2011:133).

[98] Or one's "luck would change," a belief attributed to Buddhists that was also repeated to me.

[99] The first major wave began the week of October 22, 2007 and accelerated to a peak of daily reported cases in the week of October 29, then tapered off steadily, ending by the week of December 3. The second began in March 2008 – an epidemic curve that began as a small series of cases on March 3 which then dropped off before picking back up during the week of March 17, peaking during the weeks of March 31 and April 14, and lasting through the week of April 21, 2008.

In the case of the first wave of cholera, evidence might conceivably support correlation between cholera and the lunar calendar. In 2007, the ninth lunar month began October 11 and ended on November 9 (Ho Ngoc Duc, n.d.). If dog meat consumption would increase during the last two weeks of the lunar month (Tuan Cuong Ngo et al. 2011:133), that factor might explain the sharp rise in cases reported during the week of October 29.

However, with regard to the following months, the association between cholera and the lunar calendar appears less clear. December 9 was the last day of the 10th lunar month, a period which remained relatively cholera-free until a few cases at the very end of 2007. The 11th and 12th lunar months (roughly, January and February 2008) also remained cholera-free. If dog meat consumption was the vector, the absence of cholera during that period could possibly be explained by the public having been encouraged to avoid dog meat, or else by the approaching *Tết* holiday, when dog meat eating might be assumed to carry more severe karmic consequences.

The relation between lunar calendar and cholera prevalence for the rest of 2008 also appears unclear. The fourth lunar month (beginning May 4th) was cholera-free. Cholera recurred in the second half of the fifth lunar month (starting June 3rd) persisted through the rest of the year, with such low and fluctuating incidence that any association with the lunar calendar would be challenging to confirm. The last case of cholera in 2008 was reported in the week of November 24, which was one of the last days of the 11th lunar month. Statistical testing would be required to prove or disprove the hypothesis that the cultural rules about the timing of dog meat consumption according to the lunar calendar had structured the incidence of cholera in north Vietnam in the periods under study. Ideally, analysis would compare data for 2007-2008 to the cholera epidemiology reported during other periods.

whether these events were structured by habits in dog meat consumption, and it would additionally be difficult to establish why, if this had indeed been a precipitating cause, dog meat consumption had not triggered cholera epidemics in the past.

One particularly interesting question was how, given that cholera is not a disease that affects non-human species, cholera could have contaminated dog meat served in restaurants across Hanoi. One Vietnamese sociologist suggested to me that dogs become passive carriers of cholera by eating human feces, and that eating the meat of a dog with cholera can cause cholera (Vũ Thế Long, personal communication, December 13, 2009). Given the factory farm-like conditions under which dogs used for meat are raised and killed, this hypothesis seemed farfetched, and a biologist to whom I spoke dismissed it as "stupid" (personal communication, 20 December 2009).

To answer this question, officials from the Ministry of Health, as well as others, told me that imported dogs (from Thailand, Laos, Cambodia, and the Vietnamese province of Thanh Hóa) were the source of the cholera. In those areas, I was told, dogs were raised in factory-farm-like conditions and slaughtered in unsanitary abattoirs. The government was unable to adequately police the border and prevent potentially contaminated dogs from being smuggled across (Nguyễn Huy Nga, personal communication, November 1, 2009). When I was told this story, the narrator almost inevitably supplemented it with a sketch of Southeast Asia, drawing arrows from neighboring countries across the border into North Vietnam. The "mappability" of this account seemed to amplify its credibility, as did the displacement of blame to a foreign source of contamination.

Other people suggested to me that dog meat was soaked in unsanitary water at dog meat

restaurants after cooking. More elaborately, one researcher argued that dogs slaughtered for meat were sometimes force-fed water prior to slaughter, a means of illegitimately increasing their weight and therefore the profit to the seller; the latter hypothesis was substantiated with photographic evidence (Masahiko Ehara 2010, "Dog induced cholera outbreak in Vietnam," personal communication, July 12 2010). These hypotheses reinforced the notion that uncontrolled commerce and unscrupulous business practices – in the region as well domestically – were the source of contamination. The assumed association of such forms of market activity with "culture" – i.e. the way that "people" customarily do things, by force of habit or tradition, or out of a lack of knowing better – was widespread.

Purity and Danger

As its reputed association with vended food, the informal sector, and recreational eating practices suggested, cholera in popular and "expert" models of causality is associated with, and understood to be a sign of, forms of "disorderly" social life and commercial activity. Respondents explaining how to prevent cholera, or describing its causes, relied on sets of binary oppositions to explain safety and danger. Some of the general principles that structured these perceptions are as such: Food eaten outside (*ở ngoài*) – where anything can happen – is perceived as dangerous, and seemed to be synonymous for some speakers with "eating randomly." By contrast, cooking and eating food at home is perceived as safe. Raw food (*đồ sống*) and fresh water (*nước lã*) are unsanitary and dangerous; food that has been cooked (*nấu chín*) and water that has been boiled (*nước sôi, nước đun kỹ*) are clean and safe. Food sold by a person one knows (*người quen*) is safe or "guaranteed"; food sold by a stranger is unsafe, and seemed, sometimes, to count as a form of "random" eating. Eating food at home, within the

confines of normative family relationships, is "safe"; eating for fun (*món ăn chơi*) is dangerous.

Essentially, rules for "safe" food use rested on key schemata such as outside/inside, dirty/clean, dangerous/safe, implicitly supporting a vision of public health as bound within the structure of normative gender and kinship relations. Consumption outside these strictures, often characterized as "uncivilized," is also figured as "unsafe." This schema left anyone sickened as a result of "random" consumption vulnerable to victim-blaming in the form of allegations of not just carelessness but antisocial behavior.

Safe	**Dangerous**
Space/Place	
Private	Public
Inside; at home	Outside
Urban	Rural; migratory
Disposition	
Clean (*sạch sẽ, vệ sinh*)	Dirty (*bẩn, không đảm bảo vệ sinh, không hợp vệ sinh*)
Fresh (*tươi*)	Stale (*ôi thiu*)
Cooked	Raw
Orderly	Random
Familiar	Strange
"Civilized" (*văn minh*)	"Uncivilized" (*không văn minh, thiếu văn minh*)

Table 5: Concepts of Safety and Danger in Models of Cholera Causation.

Conversations with friends and casual exchanges with health workers emphasized that attempts to manage risk by being an "intelligent consumer" was a strategy to which many city residents adhered. Many Hanoians, especially women, but also men, maintained a mental list of "safe" and "unsafe" types of food, and were eager to let me know what to avoid. An NGO worker described her rules in detail to me: She always brought her lunch to work, and avoided purchasing food outside (*ở ngoài*), where it's "dirty." Some things were okay to eat "outside," she conceded, like hot pot (*lẩu*), but never snails (*ốc*); raw vegetables were okay to eat in South

Vietnam, but not North Vietnam, where fields were more likely to have been treated with human waste.

Explaining their own systems for shopping and meal preparation, interview respondents also tended to avoid certain foods categorically, regardless of how they were prepared. Many interview respondents listed foods they avoided, which were categorically unsafe eaten at home or outside the house. This schema was a variation on the rules put forward by food safety experts – which should not be surprising, given the somewhat arbitrary advisories regarding "dangerous" foods. For example, it was unclear whether the warning against raw (*sống*) foods was meant to encompass all raw foods or only a few raw foods, such as shrimp paste and blood pudding. As a result, people seemed to adapt advisories to the pre-established rules they already followed, and continued using some raw foods even during cholera outbreaks. The most effective message that seemed to have been communicated was the proscription on dog meat and shrimp paste; many people described these foods as dangerous regardless of their treatment. In the below interview excerpt, Mrs. Linh lists the foods that were categorically prohibited in health warnings; when I asked her to explain why those foods were unsafe, she provided a number of reasons before acknowledging that it was not possible to know why.

ML	Do you know what causes diarrhea?
Chị Chi	Generally speaking, if you eat unhygienically you'll get diarrhea. I heard the radio say that during an episode of diarrhea then you shouldn't eat some things like raw vegetables; anything you eat you should boil thoroughly before you dare to eat them (*ăn gì phải đun kỹ mới dám ăn*). Then pig intestine, blood pudding, dog meat, and shrimp paste you should never dare to eat, so your family will never get diarrhea.
ML	Why does your family avoid eating rice porridge with intestine (*cháo lòng*), blood pudding, dog meat, and shrimp paste?

Chị Chi — Because I heard that those foods aren't clean (*không sạch sẽ*). If you eat raw things that aren't hygienic (*không dảm bảo về sinh*), flies swarm over it and that causes diseases.

ML — But people cook dog meat?

Chị Chi — It's not because of dog meat but shrimp paste.

ML — But shrimp paste is salted, so how can it still be [dangerous]?

Chị Chi — I don't know (*chẳng biết được*), I hear the radio say that; people hear it and are scared. For some months after, I haven't dared to touch it.

ML — Have you heard information about dog meat and shrimp paste and those diseases on TV or on the ward's loudspeaker?

Chị Chi — The ward loudspeaker talks [about it] all day, and TV talks all day too; but when I have free time, I don't watch the news. At the ward, [an employee] reads on the loudspeaker, shouting (*reo réo*) all day. So in this village, nobody has been sick; the other villages outside here have had at least one person go back to the countryside or eat something and got sick. – Trần Thủy Chi, female, 45 years old, Hoàng Mai district, Yên Sở ward, 12 March 2010.

Mrs. Chi's remarks were characteristic of most appraisals of state food safety messages. During interviewing, I only met a few individuals who appeared critical of the injunctions against blacklisted foodstuffs. Mrs. Nhung, despite taking care to soak meat and fish in salt water before preparing it, to boil drinking water, and to avoid raw vegetables, argued logically against the ban on dog meat, stating:

> People cook dog meat thoroughly so it can't cause cholera, but some houses use water that's not sanitary. First people also shower and wash clothes with their water, people also wash vegetables in that water, or people go to the toilet with that water… so the water is more important than eating dog meat. Dog meat is cooked thoroughly so many times, so it can't spread from that, just raw shrimp paste can. Cooking will certainly kill any cholera. – Phạm Hồng Nhung, female, 40 years old, Hoàng Mai district, Định Công ward, 1 February 2010.

Health "Propaganda"

As the remarks of both of these Hanoian women suggest, city neighborhoods were saturated by messages about food safety and health risks during the cholera outbreaks. Some of these messages were directly addressed to communities by the public health sector; others were communicated via state media. Whether discussing cholera risk or simply exposing the untrustworthy circuits of commercial products, media about the cholera outbreaks conveyed a fatalistic appraisal of the paradoxes of modern urban life, in which frequent contact with strangers and exposure to profit-motivated behavior forces the average person – who is construed as a consumer – into making irrational choices based on an unremediable dearth of information.

For example, one news article published advice to consumers from an "expert," attempting to shore up the uncertainties of going to market. The expert, a state food safety official, recapitulated many of the practices for selecting and preparing food safely that Hanoian men and women shared with me in interviews: buying from "trusted" vendors, soaking vegetables in salt water to kill bacteria, peeling fruit, and boiling drinking water. As Professor Đáng stated:

> Faced with the latent risk of bringing polluted (*ô nhiễm*) vegetables home, be an intelligent consumer to protect yourself and your family. According to your own experience and your family's, only buy from familiar vendors (*người bán hàng quen*). You must know how to test: to choose fresh vegetables and fruits you need to pay attention to their exterior form: is it full; is the skin intact; is it banged or crushed; scratched or scuffed; eaten into or overripe at the stem? – Professor Trần Đáng, Head of the Bureau of Food Safety and Hygiene, 19 July 2008, TinTucOnline.

While these would perhaps not have struck many readers as newsworthy, this article suggested how "public health" in post-transition Vietnam is framed as the province of technical experts, and as the outcome of individual "intelligent consumers" managing the inherent danger of

consumption by exercising individual responsibility, judgment, and knowledge.

Other articles about food safety and "lifestyle" (*cuộc sống*) often emphasized that in a field of potentially dangerous or counterfeit merchandise, consumers were helpless to determine what was safe and authentic – as in an article titled "Are 'Clean' Vegetables Really Clean?", which cast into question supermarket vegetables, popularly construed as "safe" (TinTucOnline 2008). However, as cholera continued to spread through serial epidemics, the media also framed the perversity of buyers and eaters as a factor in disease epidemicity and as a threat to public order, conjecturing that it was the failure of certain socioeconomic classes to follow health and sanitation recommendations that caused cholera to continue spreading. In this version of cholera narrative, irrational individual behaviors were held accountable for the persistence of contagion. Exemplifying this trend, one image showed a blasé young man behind a mound of raw vegetables, with a caption implying that the produce is potentially contaminated; the caption and accompanying article directly stated that customers' disregard for health advisories was leading to the socially disorderly state of disease outbreak.

Another article, sarcastically titled "Eat, Play, and Forget Cholera!" (Tổ Quốc 2011), expressed a pointedly pejorative perception of cholera victims. The phrase "eat and play" (*ăn chơi*) in Vietnamese refers not specifically to these distinct activities; rather, it alludes to a hedonistic, even debauched sensibility viewed with some degree of moral opprobrium. While *ăn chơi* may incidentally refer to literal eating and playing, it suggests that these activities are being carried out in a particular fashion: i.e. eating in company for pleasure, not nutrition, potentially including consumption of alcohol. Calling behavior *ăn chơi* references the immoderate pursuit of pleasure; it translates loosely as "playboyesque."

The term can be used to register more serious disapproval when referencing illicit sexual

indulgence, as Nguyễn-Võ Thu-hương shows in her study of Vietnamese commercial sex work (2008:21). Dog meat consumption in Vietnam is a hedonistic, male-dominated, primarily middle-class behavior which is, as one sociologist suggested to me, a masculine activity pursued in the context of visiting prostitutes. The *Tổ Quốc* article, like others published in the period of intermittent cholera infection, constructed the disease as caused by heedless, decadent behaviors by mostly male middle-class urbanites outside the context of the forms of politically acceptable social reproduction – almost as if cholera were a sexually transmitted disease. The association of (mostly middle-class) dog meat eating complicates the ascription of cholera to migratory rural poverty, but is still consistent with the larger rubric of blame, which is oriented, as I discuss below, around the key trope of "civilization."

Although the association of cholera with dog meat threatened to shift the onus onto the middle class, what was remarkable about most cholera outbreak narratives and the everyday logic of "safe" and "dangerous" foods was how uncritically they stigmatized everyday life. While the implication of street foods seemed most of all to be an attack on the everyday life of the poor and working classes, Vietnamese people from many walks of life enjoyed at least some types of food that were prepared or served outside, and did so without much apparent attention to health warnings or any fatalistic sense of taking chances.

Nonetheless, while health officials' attribution of a large part of the cholera epidemic to the careless preparation and consumption of street food was apparently widely persuasive, the connection appeared less common-sense to me after many interview respondents explained to me that the casual consumption of prepared food on the street was prohibitively expensive. Poor families avoided meals outside the house not only out of the perception that street food was potentially risky, but because most prepared meals were unaffordable. The two respondents

quoted below were not substantially poorer than my other low-income respondents, and, like many others, described preparing all or almost all of their meals at home.

> Chị Hằng [I eat street food] only rarely because I go to market and bring things home to cook, whereas I buy street food very rarely and don't eat it out much either. My circumstances don't permit it. – Bùi Thị Minh Hằng, female, 46 years old, Hoàn Kiếm district, Hàng Bạc ward, August 19, 2010.
>
> ML Does your family often eat prepared food cooked outside, like *cơm bình dân* ("common people's food")?
>
> Chị Diệp No, we don't have the [economic] conditions (*điều kiện*), so we only cook at home. – Lưu Thị Bình Điệp, female, 36 years old, Long Biên district, Gia Thụy ward, July 29, 2010.

Given the discrepant ideas of class that were encoded in the cholera outbreak narratives, one of the most challenging things to understand about the state's cholera story was who was believed to be at risk. The attribution of cholera to "poor" communities with limited access to sanitation or "lack of sanitary practices" rhetorically imputed cholera to poor people. Further, the attribution of cholera to food sold by street vendors seems to suggest that rural-to-urban migrants represented a cholera vector, either via their physical bodies or the tainted merchandise they sold. However, at the same time, official messages insistently associated cholera with dog meat consumption, a behavior perceived to be practiced most by middle-class men. If there is a synthesis between these two stories, ideationally if not epidemiologically, then it seems that the state's model of cholera risk is most strongly informed by the classic notion of "pollution" as "matter out of place" (Douglas 1966:44). Instructively, this suggests that certain types of bodies are understood as contaminating and liminal when they engage in certain practices: rural women when they travel to the city to sell merchandise, middle-class men outside of their roles as

fathers, family members, and productive workers. Perhaps most importantly, this suggests that poor communities are assumed to be potentially pathological no matter what they do – and represent, owing to their poverty, "matter out of place" in post-transition urban Vietnam.

Cholera and "Civilization"

Given the often contradictory, unsubstantiated messages that health agencies generated regarding the "true" causes of epidemic cholera in Hanoi, cholera signifies more than scientific findings. Particularly, this includes cholera's status as a proxy for conflicts around the trope of "civilization" (*văn minh*).[100] Historian Mark Philip Bradley argues that this concept advanced a radical nationalist agenda during the colonial period which "sought to advance transformative rearticulations of individual agency and the proper relations between self and society" (Bradley 2004:66). In current-day Vietnam, this term has retained its affinity for "modern" (rational, individualist, "developed," urban, and cosmopolitan) social forms while articulating an elitist and anti-populist tenor. Today, the concept of "civilization" is often deployed alongside other temporal categories "to rank social or cultural differences" (Taylor, P. 2001:11). As the following passage suggests, the external signs of "civilization" are often regarded as positive equivalents of the term "modern," while the "undeveloped" past bears stigma instead of historic or cultural value:

> People frequently referred to their condition, to society, customs and ideas, variously as 'progressive' (*tien bo*), 'developed' (*phat trien*), 'civilised' or 'modern' (*van minh/hien dai*) or, alternatively, as 'backward (*lac hau*), 'undeveloped' (*chua phat trien*) or 'traditional' (*truyen thong*). Ubiquitous billboards erected by the state displayed images of electrification, factories and vast orderly rural fields ploughed by tractors as exemplifying 'civilisation/modernity' (*van minh*), and they caricatured as 'uncivilised' (*khong*

[100] This Sino-Vietnamese word contains two radicals signifying "literature" (*văn*) and "clear; light; enlightened" (*minh*).

> *van minh*) and 'backward', phenomena such as gambling, superstition, drinking and large families. [Taylor 2001:11]

While "civilization" in this sense often appears to reference the cultural accomplishments of a capitalist teleological progression, the leaders of the Vietnamese state have also used this term to reference Vietnam's Confucian legacy, aligning it with contemporary modernization. Historian Shawn McHale has noted how this historical revisionism by the Vietnamese state "consciously build[s] upon claims made in Singapore and China for the purported uniqueness of Asian values in legitimating authoritarian models of economic development" (Bradley 2004:81). Of course, this gesture also represents a repudiation of the Vietnamese Communist Party's previous anti-Confucian stance: the meaning of "civilization" in Vietnam is fungible, given the region's complex historical sedimentation of diverse political formations.

Appealing to these more recent imaginings of "civilization," accounts of the outbreaks in Hanoi often recapitulated intrasocietal hierarchies, connecting cholera to "unsanitary" or "unsafe" eating and hygiene practices which are associated with less developed societies, people, and the past. Therefore, cholera was also associated with some other usual suspects: underdevelopment, lack of intelligence or education, and faulty moral character. The term "civilization" was used polemically against unregulated, unlicensed forms of commerce, whose agents and clientele were depicted as jeopardizing public health. Informal food vendors were particularly frequently framed as the antithesis of "civilization," or as what Charles Briggs and Clara Mantini-Briggs, in their account of epidemic cholera in Venezuela, term "insanitary subjects." These individuals or classes are portrayed as "intrinsically linked to a particular package of premodern or 'marginal' characteristics – poverty, criminality, ignorance, illiteracy, (…) filth" (Briggs and Mantini-Briggs 2004:33). Their bodies and social selves are outside the

disciplinary coordinates that delineate citizenship.

The discursive coupling of cholera with "culture," and "civilization" is well-known in European and American accounts of 19th-century cholera epidemics, where cholera was assumed to arise with spaces and behaviors of the urban proletariat; the disease was also sometimes interpreted as a force exposing moral or political economic failure. During the Hanoi cholera outbreaks, this was seen in the repeated tendency to locate epidemiological explanations in "cultural" behaviors which are imputedly less than modern and scientific. The association of health and "civilization" in these accounts was more reminiscent of the Soviet/Russian concept of *kul'turnost*' (culturedness), which, as Michele Rivkin-Fish has shown, was "utilized as [a] disciplinary trope in the Soviet period"; its use has continued "in the post-Soviet sphere of public health" (Zigon 2010:18). However, in Vietnam's post-reform period, the thematic of "civilization" is frequently conjugated with social processes and phenomena other than health, referencing personal attributes such as behavior and consumption as well as social forms such as architecture and sanitation. As other anthropologists working in Vietnam have shown, the term "civilization" has accrued meaning through its deployment to reference struggles over public space and the right to the city; over norms of citizenship, identity, self-responsibility, and conduct.

For example, in a district of Hồ Chí Minh City beginning in the early 2000s, anthropologist Erik Harms documented the disappearance of traditional sidewalk cafes, with their fluid intermixing of public and private spaces and sociality. These venues, whose proprietors informally appropriate portions of the street for seating and service, were marked by their social as well as physical openness and the heterogeneity of their clientele. Over a brief period, these establishments were edged out and replaced by enclosed buildings with air

conditioning and dark windows. In these new, "modern" cafes, increasingly well-heeled patrons sat with their backs to the street, apparently glad to have left behind the open-air sociality of the public sphere. At the same time, less well-to-do residents – customers as well as traders – no longer felt comfortable in the area and sought out other venues for commerce and recreation. Harms connects this transformation to other civic policies organized around the concept of "urban civilization" (*văn minh đô thị*) current in Vietnam, noting "neither the use of civilization (*văn minh*) to mobilize the population nor assertions of urban order to control them are particularly new" (Harms 2009:184). Understanding "civilization" as a code word, Harms argues that struggles over public "order" are proxies for struggles over the regularization of property rights and the state's work of advantaging Vietnam's owning classses.

Appealing to "civilization" as both aim and justification, imperatives to reshape space are visible in myriad forms in Vietnam: the prohibition of informal traders from public streets (Leshkowich 2005, Lincoln 2008); the replacement of informal markets (*chợ cóc*[101]) by large built markets (Geertman 2010)[102]; "white clearings" (*giải tỏa trắng*) to sweep prostitutes and other social undesirables from public spaces (Nguyễn-võ Thu-hương 2008:122); urban police disestablishing informal retail operations, confiscating merchandise, and levying fines[103]; and the

[101] Literally "toad markets," so called for their ability to disband quickly and evade police (Maruyama and Trung 2010:3).

[102] A small literature covers Vietnam's recent efforts to control street trade in cities: "As an example of a developing country working to create modern cities, the Vietnamese government attempts to control and eliminate informal sector activities and elements, such as peddlers, street-side cooked-food outlets, and spontaneous fresh produce markets (see e.g. Drummond, 2000; McMillan, 2002; VNE, 2002; BAI, 2005; Sharit, 2005)" (Maruyama and Le Viet Trung 2010:1).

[103] In Hanoi, while this phenomenon sometimes had a violent aspect, with the peremptory arrival of the police resulting in everyone at a roadside tea-stand abandoning ship and leaving the unfortunate proprietor to face the consequences, night-time police sweeps in the Old Quarter often had a ritualistic quality, creating only the briefest, most perfunctory performance of compliance. As a police truck maneuvered slowly through traffic – with plenty of advance warning, owing to the loudspeaker's commands – patrons of streetside beer establishments (*bia hơi*) joined proprietors in pulling plastic stools out of the part of the road that was off limits, positioning the furniture on the sidewalk where they were allowed. Patrons regarded this as just part of the evening's entertainment, standing by while the police passed and waiting only briefly before replacing their seats and rejoining their conversations.

state's exercise of eminent domain to remove people from their villages and land. In keeping with Harms's reading of the meaning of "civilization," the common denominator in these exercises of spatial power is a valorization of "orderly" property relations and the creation of hierarchy. Anthropologist Christina Schwenkel has also linked the discourse of "civilization" to the Vietnamese state's imperative to create privileged forms of spatial order by sweeping out "unmanaged" populations and practices:

> The circulating logics of self-discipline and responsibility that inform neoliberal projects of urban renewal are not entirely new in Vietnam. State socialist discourses of civilization (*văn minh*) — civilized cities (*thành phố văn minh*) and civilized streets *(đường phố văn minh)*, for example — have also been employed in conjunction with policies that aim to "clean up" urban areas and rid them of unmanaged, mobile bodies, in this case largely poor, rural-to-urban migrants in the informal economy. As Leshkowich has argued, female petty traders, in particular, whose mode of survival in late socialism signifes an irrational, 'backward subsistence economy,' have been targeted by government decrees that aim to restore urban order and 'implant modernity through rational economic development.' [Schwenkel 2012:461]

The concept of *văn minh* moves easily between contexts to serve a variety of rhetorical ends. The conflation of "civilization" with health enabled mainstream Vietnamese outbreak narratives to scapegoate unregulated activities in public, particularly undisciplined commerce, in the name of public health. But more accurately, it was *private* health that was referenced: the norms and forms of "public health" were addressed to a middle-class audience, privileging the consumption styles and habitus of the "orderly" middle-class. At the same time, cholera – once a disease whose prevalence was interpreted as a signal of oppression and a call to arms – was reframed as a disease spread by poor and rural individuals and undisciplined middle-class people indulging in habits and pastimes that violate hegemonic conventions of space, class, and gender. These changes in the political economy of blame indicate how the "public" is figured not as the masses (*người dân*), but as a body politic composed of individual middle-class "hygienic citizens"

(Briggs and Mantini-Briggs 2004:33). It also represents "culture" not as a source of prestige or power,[104] but as a source of risk and disease, and as a source of shoring up theories of disease causation which would otherwise be difficult to prove.

In this model of society, social groups who are politically powerless but economically agentive are easily targeted as improperly cultural and out of step with "civilization." Further, inasmuch as food and consumption stand in for class identification, geography, gender, and political affiliation, pathologizing foods sold and enjoyed by the working class is a politically and symbolically potent statement of the new socioeconomic order of post-transition Vietnam. Equally powerfully, the state's recommendations for disease control and the reinstatement of "civilization" and health were addressed to individuals and private households, whose proper attention to consumption and hygiene were figured as the answer to a disease spread by the surging, contagious commons.

Conclusion

During its socialist period, Vietnam successfully eradicated cholera. In its post-transition period, cholera resurfaced on four occasions between 2007 and 2010, inspiring images which contravened the Vietnamese state's attempts to project itself as a modern, developed country. The response of state health officials to this public relations crisis was strongly marked by an attempt to deny the seriousness of the disease outbreaks and to displace blame. Issuing a series of health advisories, health officials attributed the cryptically spreading disease to elusive, ubiquitous economic agents in quest of their own survival, and to a few culturally disavowed

[104] In Vietnamese, formal, official, or traditional "culture" is designated by the term *văn hóa*, a Sino-Vietnamese word which literally means "the change that literature brings about" (Lockhart 1996:53). Cultural practices which

food products.

The latter gesture read as bizarre for outsiders but was quite legible for Vietnamese observers. Connecting cholera to "culture" allowed the state to disavow responsibility for the irrational behaviors of "insanitary subjects" such as rural-to-urban migrants, street vendors, or middle-class men eating and drinking rambunctiously. Contextualizing cholera and "public health" in the terms of "civilization" made the epidemics ideologically continuous with a recent history of urban struggles over public space, private property, and the concept of citizenship, but raised the stakes by positing civilization's outliers as biohazardous. In this way, cholera was used to reinscribe hierarchies of class and gender which predate the transitional period, and to adjust them subtly. Particularly, the individualization of questions of risk and responsibility for disease prevention, and the privileging of the private family as a site for health promotion, signaled the departure from a thoroughly socialist model of disease causation and public health. The staying power of lay, biomedical, and "traditional" accounts of cholera was, as I show in Chapter Four, their correspondence to long-established medical and ethical models of disease causation.

However, although many people accepted the state's version of events or interpreted them in idiopathic yet politically innocuous fashion, the conflation of cholera with deserving poverty and backwards classes was not accepted by everyone. Deploying epidemic disease as a moral symbol is a rhetorical tactic which is particularly powerful in the hands of the state, but it cannot be monopolized. Some writers countered official version of events not only by contesting state science, but by using cholera as a metaphor for the incompetence and dishonesty of the Vietnamese Communist Party. Some "Vietnamese overseas" individuals republished the news

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are more atomized or less privileged, and in turn more likely to be stigmatized in elite discourse, are typically called

of the cholera outbreaks to express their contempt of the Hanoi regime, alongside critical commentary (cf. Lý Tưởng Người Việt.com 2010, www.skyscrapercity.com 2008). Domestically, an article titled "Why is Vietnam Poor and Lowly?", excoriated the declining state of Vietnamese society and its political leadership; its author, a blogger named "Dr. Ngọc," pointed out that even the cholera outbreaks had failed to supply sufficient impetus for Vietnamese officials to communicate honestly to the public.

> … But we must acknowledge that it is very rare to see leaders like Nguyễn Bá Thanh.[105] On the contrary, we see only leaders who simply do what is required by the upper level (*cấp trên*), and never prove anything or assess matters with certainty. These leaders are simply docile (*ngoan ngoãn*), with the single long-term goal of keeping their current position. A cholera outbreak breaks out and they still don't dare announce it to the people because they're afraid of offending those above them. [Dân Làm Báo 2011]

In an even more provocative tenor, one comment to an article about Vietnamese financial policy, an article republished on state-censured blog Dân Luận (The People Discuss) figure two top political leaders as infectious diseases, casting Prime Minister Nguyễn Tấn Dũng as cholera. As the commenter ironically suggests, the only way to avoid infection by "cholera" is to abstain from eating:

> … if God (the Party) forces me and I can't avoid it, and I have to choose between the plague of NPT [Nguyễn Phú Trọng, the General Secretary of the Communist Party] and the cholera of NTD [Nguyễn Tấn Dũng], then how will I choose a disease? With a bit of understanding about disease, I must choose cholera because I just need to avoid eating, then if I don't die of hunger then I can still hope to live … [Dân Luận 2012]

A rejoinder to this remark questioned the logic of having to choose between the two "diseases," suggesting that what was necessary in Vietnamese politics was a campaign of hygiene,

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phong tục or *phong cách*, traditions or ways of doing things.

[105] A Đà Nẵng politician and member of the Central Committee of the Vietnamese Communist Party; according to this author he, despite his involvement in various recent scandals, "dares to speak, act, and prove" (Dân Làm Báo 2011).

sanitation, and preventive health. Here, the author's use of socialist-era health rhetoric was deployed to suggest a political "housecleaning" was in order.

> (…) Why is the choice between plague and cholera? Either disease leads to death. Whoever dies is taken to be buried. The person who becomes sick – even if they can be cured they are still at death's door, and must have time to recover their health. As for the healthy people, who still haven't gotten sick, would they wish for disease, wish for death, and accept that death is coming sooner or later?
>
> Why not vaccinate against the disease? Clean the environment, eat and live hygienically in order to prevent sickness, to continue living in health?
>
> Would every Vietnamese person want to choose between plague and cholera? I choose the method of wiping my hands clean, cleaning the environment. Eating and living hygienically, and ready for the injection. [Dân Luận 2010]

As the following chapter will show, this comment is particularly resonant in the context of the diverse moral imaginaries which have historically been associated with health in Vietnam. Despite shifts across time and space, the political significance of health and medicine has often been deployed in formations of national identity, morality, and ethics, while mass disease events have often been associated, allegorically as well as in fact, with domination by hostile forces.

Chapter 4

Medicine and Public Health in Vietnam

Đi với Bụt mặc áo cà sa, If you go with the Buddha, wear a robe;
Đi với ma mặc áo giấy. If you go with a ghost, wear clothes of paper.

Vietnamese proverb

Medical systems in Vietnam, as everywhere, are not only forms of systematic, actionable knowledge about the body, but are also moral and affective systems whose referents are macrosocial as well as individual. In this chapter, I discuss the forms of medical and healing practices current in Vietnam, not only because they supply the local coordinates not only of health-care-seeking activities, but also because they provide epistemological foundations for explanations and models of health and disease. I also describe the historic progression of public health outcomes, suggesting how they have corresponded to political economic arrangements at various points in Vietnamese history.

The first section of this chapter describes the forms of healing practice in Vietnam, some of which begin in the period that pre-dated Chinese occupation and rule (*Bắc thuộc*) of populations in the Red River Delta and continue to be practiced today. During the premodern period, the indigenous development of medical practices, as well as the exchange of knowledge, practices, and *materia medica* between Vietnam and China, established the foundations of substantial and formalized medical systems, which continue to be practiced and recognized as legitimate in present-day Vietnam. These multiple sources of "traditional" medical authority and practice have not been replaced by biomedicine; in fact, these historically prior strata have been promoted by the Vietnamese state since the socialist period as part of the nation's health care

resources.

In both lay and expert iterations, the internal diversity of Vietnamese medicine is the artifact of creative and critical appropriation – a theme that is emphasized in the nation's broader history of science and technology (Nguyễn Thế Anh 2003). Pluralism in "high" and "low" medical theory and practice result from the multicultural population of Vietnam, as well as from the experience of successive foreign occupations (Chinese, French, and, less influentially, Japanese and American). Although the state health system primarily emphasizes biomedicine, professionals trained in other medical models, as well as laypeople, routinely use non-biomedical therapies or resort to different types of medicine serially. As this chapter will discuss, the history of biomedicine in Vietnam is more a story of strategic appropriation by indigenous specialists rather than one of colonial imposition. When Europeans first arrived in Southeast Asia, their medical resources did not exceed those of Vietnamese medicine. Subsequently, the development of French biomedical institutions during the colonial period was generally insufficient to reach many Vietnamese people, and the aggressive imposition of some techniques, such as mass vaccination, caused moral horror and resistance in Hanoi during the early 20th century. Today, biomedicine is more privileged than "traditional" medicine in many spheres of Vietnamese society, though the state continues to invest in the development of the latter. In this chapter, I detail the significance of coexisting medical models, their respective positions in the estimation of diverse Vietnamese social groups, and their place in laypeople's strategies of resort, which are a site of ideological affiliation and contestation as well as a praxis of attempting to gain the advantages of good health under uncertain circumstances. After establishing the historic background of medical knowledge and practice in Vietnam, I draw on fieldwork-based findings and anthropological literature to discuss how non-codified religious thought structures

Vietnamese thought about health, and how Vietnamese people characterize the relationship between health and the environment.

I also discuss the profile of cholera in these distinct medical traditions. Cholera and other diarrheal illnesses have long been known and treated in the medical traditions popular in Vietnam, and it is possible to compare these distinct styles of thought by examining their respective treatments of this disease. As described in Chapter Two, cholera outbreaks in Vietnam have historically been framed as a disruption of social, religious, moral, and environmental order; the medical canons I discuss below also understand cholera as a disruption, while making use of different key terms to express the nature of that disturbance. In contemporary Vietnam, this remains the case: while biomedical discourses dominate some aspects of lay interpretations of cholera in Vietnam, the disease continues to bear other connotations, and the discourse about cholera symptoms, prevention, and treatment includes concepts and meanings that exceed those of state biomedicine. As later chapters will suggest, the history of health, healing, and disease epidemiology in Vietnam help to structure the significance of cholera in the present day. My conclusions about cholera's significance are based on analyses of cholera discourse, of cholera's moral meaning, and its articulation with Vietnamese tropes of "modernity" and "civilization"; I also use cholera as a way in to understanding environmental, political, and economic pressures as they are experienced in contemporary urban Vietnamese society.

In the final section of this chapter, I provide a history of public health in Vietnam to demonstrate how contemporary public health in Vietnam, is, like medical knowledge and practice, strongly shaped by historical inputs. Vietnam's modern socialist public health system, for which it was internationally recognized, was articulated as a response to the paradoxical

legacy of modern French biomedicine, which had been imposed by force. During the socialist period, Vietnam's public health indicators appreciated enormously, signaling to some observers the promise of primary health care (PHC) for poor countries. In the post-transition period, Vietnam's health care system has entered a new phase of reversing its former priorities. Health disparities and irregularities in the health system mark Vietnam's public health in a newly wealthy society that is re-introducing a logic of socioeconomic stratification and differentiated access to preventive and curative health care.

North and South: Postcolonial Medicine and National Remedies

Vietnamese people use ordinal directions as shorthand to designate three different major medical traditions: *thuốc Bắc* ("Northern medicine," or Traditional Chinese Medicine – sometimes also translated as Sino-Vietnamese medicine), *thuốc Nam* ("Southern medicine," or Vietnamese medicine), and *thuốc Tây* (Western biomedicine). Perhaps the most fundamental distinction between types of medicine, though, is drawn between "our" medicine (*thuốc ta*) versus "Western medicine" (*thuốc Tây*). A woman who had been suffering from insomnia explained the respective benefits of "our" medicine versus Western medicine:

ML	Do you think Western medicine or "our" medicine is better?
Chị Thủy	Western medicine heals faster; our medicine goes bit by bit. Taking Western medicine is more expensive; I have to eat more vegetables [*because of the cost of using it*]. Our medicine isn't so expensive. I feel Western medicine is more harmful (*hại hơn*), but it cures (*chữa*) you quicker. – Phạm Ngọc Thủy, female, 47 years old, Hoàn Kiếm district, Bách Khoa ward, April 26, 2010.

Although a state-funded biomedical health apparatus has been widely established since the mid-20th century and allopathic physicians represent a (relatively) well-respected professional

class, the categories of "health," "medicine," and "disease" are not delimited in solely biomedical terms in Vietnam. In Vietnam, non-allopathic medical traditions represent an intellectually legitimated corpus of indigenous theory and practice. They also enjoy the support of the state and also constitute a source of popular models for health and illness. "Traditional," non-biomedical home remedies are preferred first-resort therapies in case of minor illness. As such, "traditional" medicine coexists with "modern" allopathic medicine in contemporary Vietnam, both in everyday strategies of resort and in state programs of medical research and pharmaceutical development. While some Vietnamese doctors and scientists discount traditional medicine, it is unusual to encounter someone who refuses to entertain the credibility of one of the multiple approaches to caring for health and the body. In the following two sections, I will describe the history and intellectual foundations of these medical traditions, and establish their significance in popular Vietnamese thought and practice.

In contemporary Vietnam, "traditional" forms of healing have not been supplanted by "modern" ones, nor "superstitious" concepts of disease contagion replaced by scientific ones. Owing to the diversity of forms of medical authority, many Vietnamese patients and families practice medical bricolage, choosing from diverse theories, therapies, and practitioners depending on their inclination and the symptoms in question. Given the financial wherewithal and the inclination, one can elect between care from an herbalist, a pharmacist, a pagoda, a private clinic, and/or the specialist service wing of a public hospital.[106]

Thuốc Bắc: Sino-Vietnamese Medicine

[106] David Marr dates the increasing complexity of South Vietnamese health care seeking behaviors to the Second Indochina War" (1965-1975; also known as the Vietnam War in the USA and the American War in Vietnam), which "forced ordinary citizens in both regions to fall back on local initiatives and remedies" (1987:47-48).

Medical discourse and practice in Vietnam has long been marked by its heterogeneity, with cross-disciplinary appropriations marked by contestation over national identity, status, and pride. The most prestigious idiom of Vietnamese medicine, however, is *thuốc Bắc*, or "Northern medicine," a term that is sometimes used as a gloss for Traditional Chinese Medicine (TCM) – which in China dates to the Shang Dynasty (1800 B.C.) and the *Nei Jing* (Internal Classic), written 200 years later (Hữu Ngọc and Borton 2003:17). In Vietnam, medical practitioners continue to recognize the cultural alterity of *thuốc Bắc*, even after millennia of appropriation and assimilation into Vietnamese practice: "healing therapies and drugs from China, even if administered by a Vietnamese physician, are *Thuốc Bắc*" (Thompson 2005:5).

However, the correspondence between *thuốc Bắc* and Traditional Chinese Medicine as practiced in China is less than total. Medical anthropologist David Craig calls *thuốc Bắc* "a provincial variation" of Traditional Chinese Medicine, with "its anatomy, physiology, and pharmacology derived by uneven transmission from Chinese classics" (Craig 2002:41). Other authors assert that *thuốc Bắc* is more like a derivation or hybridized form of TCM than a carbon copy. Pointing out the role of Vietnamese nationalism and anti-Chinese sentiment in the local cultural politics of technology transfer, historian Nguyễn Thế Anh argues that Vietnamese uptake of Chinese medical knowledge has been more deliberately selective than incomplete:

> In spite of their deep Sinicization, the Vietnamese retained indeed a sharp critical sense towards their Chinese initiators. In the domain of therapeutics for example, they did not accept all the Chinese theories or courses of treatment. They modified them considerably instead, taking into account local vegetal and mineral resources that they considered well adapted to the pathology of their people (hence the numerous treatises written on materials going into medicinal preparations). In so doing, they emphasized the antagonism between northern and southern medicine. [Nguyễn Thế Anh 2003:446]

Prior to the arrival of biomedicine – and indeed, perhaps after – *thuốc Bắc* was the privileged,

professionalized, and resultingly more expensive medical tradition in Vietnam. However, as Nguyễn Thế Anh suggests, *thuốc Bắc* is, like other Chinese imports, marked by the sensitive postcolonial politics that mark the Vietnamese experience of China's political, economic, and cultural influence. Evidence of these attitudes includes Vietnamese proverbs denigrating *thuốc Bắc* for its expense and its esoteric, antipopulist quality: for example, "Southern medicine fights the enemy, Northern medicine takes your money" (Craig 2002:49).

Thuốc Bắc draws on the theory of yin and yang (*âm-dương*) as a unifying theory of ontology, anatomy, physiology, and disease etiology (Craig, 2002:46). The constantly shifting balance of *âm* elements (feminine, cold, wet, hidden, etc.) and *dương* elements (masculine, hot, dry, revealed, etc.) generate and promote the circulation of *khí*, a vital force that supports the health of living beings.[107] The five elements, or "five phases" (Unschuld 1998) of water, wood, earth, air, and fire are also posited as ideal-type metaphysical properties that interact dynamically; their respective equilibrium in the body also affects health and disposition. Each year, month, day, and hour in the lunar calendar is associated with one of the five phases, a correspondence that has material consequences for people's character and their worldly activity. The hour of an individual's birth is considered to influence physiognomy and temperament, and individuals are susceptible to different effects and experiences at different periods in the lunar calendar.[108]

[107] *Âm-dương* manifests not only in theories of health, disease, and healing, but also to explain the dynamics of social, political, and cosmological phenomena. Jamieson (1995) alleges that the schema of *âm-dương* is so fundamental to Vietnamese psychology and society that he employs it in his classic study of Vietnam as a grand unified theory of national history, an approach reduces the historical particularity of a multicultural and frequently internally fragmented nation-state to an Orientalist caricature (cf. Trần and Reid 2006). Nevertheless, in my experience Vietnamese people often find *âm-dương* "good to think with" and invoke it in conversation to describe and explain diverse phenomena.

[108] For example, "A Vietnamese saying advises: During three days, the fifth, the fourteenth and the twenty-third/Don't leave your home! (*Mồng năm, mười bốn, hăm ba, Trong ba ngày ấy, chớ ra khỏi nhà!*)…In addition to these common unlucky periods for everybody, there are others for each individual. The determination of fortunate

Rather than seeking to extinguish pathogens, thuốc Bắc takes rebalancing humors and the nourishing, balancing, and replenishment of *khí* as the primary goals of health promotion (Mai Duong Nguyen 1985:411). Techniques of *thuốc Bắc* – including acupuncture (*châm cứu*), acupressure (*bấm huyệt*), cupping (*giác hơi*) and the administration of herbal medicines (*cây thuốc, thuốc lá cây*), often prescribed in herbal or proprietary formulae with multiple ingredients (Hữu Ngọc 2003:17) and tonics (*thuốc bổ*) – have the aim of regulating the equilibrium of a dynamic system. Historically, cholera remedies prescribed by Northern practitioners have included "the sipping of small amounts of liquid concoctions every fifteen or thirty minutes, which at the very least helped to offset dehydration" (Marr 1987:40). Chinese medicine also uses rhubarb (*đại hoàng*/*Rheum officinalae*) to treat diarrheal illness (Nguyễn Trần Huân 1987:59).

Following multiple episodes of state-led revival (Wahlberg 2006:26), Northern medical materials and techniques are institutionally supported by the public health system and commonly used in present-day northern Vietnam, and are warmly received by some consumers as an alternative to biomedicine and state services. A conversation with a Hanoian woman affirmed the importance of perceptions of trustworthiness, talent, and charisma in seeking health care services from a provider of "Eastern" medicine. Her remarks also underscored willingness to pay out of pocket for services from a "smart" (*giỏi*) or "talented" (*có tài*) practitioner – alongside a reluctance to extend trust unconditionally to employees of state medical services. In accounts of contact with practitioners of Western medicine, I never heard a respondent express equivalent pleasure, interest, and pride; *bình thường* (fine) was the lukewarm adjective often used to describe health services. Her comments suggest how Vietnamese individuals compartmentalize

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and unfortunate times for one person is made [according to] his or her birthdate" (Nguyễn Ngọc Huy 1982:269-

priorities when they seek different kinds of health care, making cognitive space for the coexistence different styles of medical thought and practice. Depending on the significance of an illness episode, and depending on the types of feeling, experience, or practitioner a person wishes, they may resort to the state health services, to a fortune teller, or to a "trusted" or "talented" practitioner of a non-biomedical speciality.

> ML Do you ever get treated with Eastern medicine or see a fortune teller?
>
> Chị Hạnh I sometimes see a fortune teller. And I do use Eastern medicine, particularly acupressure; I feel that it helps me a little. I just go every few months because I don't have money, it's very expensive, every time you get acupressure it's 50,000 (~$2.50 US). How would I have the money for that? I just go every few months to see older brother Tuấn on _____ Street. He has a private practice, working extra (*làm thêm*) at home. … He works at the Vietnam University of Traditional Medical in Hà Đông. He's very smart! He gave me treatments over the last few months and I feel better now.
>
> ML How do you know him?
>
> Chị Hạnh People introduced me. Sick people just introduce one another to him. They say he gives them treatments and they feel better, they like it. People just lead each other to him; he's trusted (*có tín nhiệm*), so people bring each other there. I also know he works for the state, but really, not everyone who works there is good at all. He specifically is someone that people trust, they like him a lot, his office is crowded. – Lê Thị Hạnh, female, 45 years old, Long Biên district, Ngọc Lâm ward, August 5, 2010.

Thuốc Nam: "Southern People's Medicine"

Thuốc Nam (Southern medicine) glosses a body of medical knowledge and practice drawing on Vietnamese plants and animals[109]; despite Vietnam's implicitly China-centric self-

270).

[109] For background information on specific Vietnamese plant and animal species used in Vietnamese traditional medicine and their indications, see Nguyen Van Thang 1996:215 (fn. 2), and Nguyen Xuan Thu 1993.

designation as "Southern," *thuốc Nam* is an autochthonous tradition developed independent of and prior to Chinese influence. Its history and scope of *materia medica* is vaguely defined; one author suggests that Southern medicine's origins date "back to time immemorial and make use of a multitude of disparate recipes handed down from generation to generation" (Nguyen Van Thang 1996:209). Gerald Hickey noted in his study of a village near Sài Gòn that *thuốc Nam* practiced in Southern Vietnam also drew from Cham and Khmer medical traditions, which were understood to be particularly powerful (Hickey 1964:119).

Often transferred patrilineally through families, the traditional recipes and treatments of *thuốc Nam* are *gia truyền* (family traditions) as opposed to *cổ truyền* (classically traditional, based on textual heritage), and were historically kept secret instead of becoming codified as part of an institutionalized, commodifiable body of knowledge (Marr 1987:34; Hữu Ngọc and Borton 2003:15).[110] The historian C. Michele Thompson asserts that according to Trần Quốc Vượng, a leading authority on *thuốc Nam*, practitioners of Southern Vietnamese medicine have "always come from medical families and not from the literati class" (Thompson 1998:194*n*). Intergenerational transmission facilitated the endurance of a heterodox medical system that varies between families and regions (Marr 1987:33).

This nebulous provenance nothwithstanding, *thuốc Nam* is not an entirely folkloric body of medical knowledge. It cites a number of talented and influential popularizers, the most celebrated of whom is the scholar-monk and physician Tuệ Tĩnh[111], typically described as a kind

[110] As this example shows, referencing the "traditional" as an authoritative and essential source of knowledge and practice can be problematic in Vietnam, given that the diversity of historical and cultural experience has entailed multiple, often contradictory sources of "tradition."

[111] The period of Tuệ Tĩnh's activity is debated, with some authors suggesting that he lived and worked at some period during the 11th-13th century, others suggesting fourteenth century (Hoang Bao Chau 1984:19), others the seventeenth century (Reddy 2005:295), and others the sixteenth century (Nguyen Van Dan 1993:37). According to other sources, Tuệ Tĩnh came back to life in 1846 and for three months in 1936, for three months (Hữu Ngọc and Borton 2003:23).

of patron saint of indigenous Vietnamese pharmacy and medical practice, known for his two works "On the Divine Efficacy of Southern Herbs" (*Nam Dược Thần Hiệu*) and "The Medical Precepts of Master Hồng Nghĩa" (*Hồng Nghĩa tư giác y thư*). The former listed "499 medical substances, 3,873 recipes and 182 ailments" (Reddy 2005:295), while the latter provided lessons for using local medicines (Lan Tuyet Chu 2001:265).[112] Hải Thượng (Lãn Ông), the 18th-century author of a medical encyclopedia, *Hải Thượng Y Tông Tâm Lĩnh* (*Medical Studies of Hải Thượng)*, was also influential in establishing medical formulae and authoring medical works.

The historian C. Michele Thompson (1998) characterizes the Vietnamese attitude towards Chinese cultural influence via medical technologies and philosophies as "a negotiatied dichotomy" – an arena of contestation, accommodation, and resistance. In an idiom of resistance, the scholar Tuệ Tĩnh encouraged a transition away from dependency on Chinese pharmaceuticals and medical experts, coining the phrase "Southern medicine for curing/treating Southern people" (*thuốc Nam Việt chữa người Nam Việt*). For example, judging that ginger and cinnamon were appropriate for the colder Chinese climate but too heating for Vietnamese bodies, Tuệ Tĩnh recommended that Vietnamese patients use smaller quantities of these herbs (Nguyen Van Thang 1996:212). This insight retains a fundamental concept of Traditional Chinese Medicine – namely, its concern with humoral properties of bodies, climate, and substances – while modifying its specific formulae in response to local conditions. Arguably, Tuệ Tĩnh's status in the canon of Vietnamese medical history owes to his tactful intervention with respect to the uptake of Chinese medical precedent, which acknowledges the legitimacy of certain principles while asserting independence from its claims to universal applicability and gaining

[112] This latter volume was compiled in the fifteenth century by the historian Phan Phu Tiên. Titled "*Bản ThảoThực Vật Toản Yếu* (Materia Medica), [it] was apparently the first of these Sino-Vietnamese treatises listing available medicinal stuffs" (Nguyễn Thế Anh 2003:446).

control over the synthetic product.

The 18th century scholar-physician Lê Hữu Trác (1720-1791), better known by his pseudonym Hải Thượng Lãn Ông or Lãn Ông, is also cited as a luminary of traditional Vietnamese medicine; a wartime publication on the DRV's medical system names him as the discipline's "greatest master" (Vu Can 1972:97). Like Tuệ Tĩnh, Lãn Ông is remembered for his work in adapting Chinese diagnostic categories and medical remedies to reflect his observations of Vietnamese climate and physiology. He also recorded and published popular prescriptions that he had found successful and produced an exhaustive record of Vietnamese therapeutic agents (Nguyen Van Thang 1996:213). Lãn Ông is also often represented as an early medical ethicist and humanist in the Confucian tradition. The below quote from *Hải Thượng Lãn Ông Y Tâm Lĩnh* (The Medical Ethics of Lãn Ông) establishes this physician's perspective on the significance of healing:

> Medicine, in essence, is a means to put human virtues into practice. It tries to preserve human life, it helps us to share the joys and sorrows of others. Its mission consists of saving people without seeking any selfish interests, any glory. [Hữu Ngọc 2008:544]

Though there is debate about the profile of Southern medicine in Vietnam, with some arguing for its prestige equal to "cosmopolitan" Chinese medicine, most commentary indicates that thuốc Nam has typically not been regarded as highly as *thuốc Bắc* or, in the colonial and post-colonial period, as *thuốc Tây* (Western medicine).[113] David Marr (1987:33) terms *thuốc Nam* a "poor man's medicine" for its reliance on locally available, minimally processed materials instead of expensive Chinese imports. Both its non-codified content and its domestic origins seem to reinforce *thuốc Nam*'s lack of prestige as well as its "familiar" quality in the estimation

of Vietnamese consumers. *Thuốc Nam* informs the more domestic, less medicalized realms of nutritional choices, body care, and home preparations of simple therapeutic substances like teas, soups, and porridges. Individuals self-treat with *thuốc Nam* when diseases appear simple enough to be readily diagnosed and cured by a common treatment like coin scraping (*cạo giò*) to relieve pain or pressure or inhaling steam under a blanket to dissolve a cold (*cảm*).[114] Many of my interview respondents mentioned using these techniques to treat minor illnesses:

ML	When you have low blood pressure, how do you usually treat it?
Bà Tuyết	I buy ginger tea, a box like this one, and when I'm tired I drink two packets. – Trần Thị Tuyết, female, 78 years old, Hai Bà Trưng district, Đông Mác ward, 13 April 2010
ML	In the last three months have you had any health problems?
Chị Trinh	My child complained that he was tired, his legs were sore. I put him to soak his legs in a bath with ginger and salt. – Nguyễn Thùy Trinh, female, 29 years old, Long Biên district, Gia Thụy ward, July 29 2010.

Southern medicine uses pomegranate skin and the bark of *vông nem* (*Papilionaceae*) to treat cholera (Hưu Ngọc and Borton 2005:81, 85). For diarrheal illness, which was probably a common malady in Vietnam's precolonial period, *thuốc Nam* prescribes chewing fresh tea leaves or guava buds (Marr 1987:34); other remedies include pomelo, rambutan, watermelon rind, mangosteen fruit, and *nhót* fruit (*Elaeagnacea*). If the symptoms are due to a "cold" stomach (*do lạnh bụng*), Southern medicine prescribes dried galangal and dried nut grass (*củ gấu/Cyperus rotundus*) dissolved in hot water and prepared as tea (Hữu Ngọc and Borton 2005:74). In the

[113] Somewhat reconciling the debate, anthropologist David Craig (2002) argues that *thuốc Nam* has a "double" life, incorporating both an institutionalized form and a set of "folk" diagnostic and healing repertoires that still inform the home remedies that contemporary Vietnamese people commonly use to cure and prevent disease.

[114] Lest this give the impression that *thuốc Nam* is a naïve or rudimentary assortment of techniques, it is worth pointing out that more complex procedures, such as moxibustion (*cứu*), are part of *thuốc Nam* and are proudly

Mekong Delta and Central Highlands, researchers recorded the use of *Commelina communis* (*rau trai*) for diarrhea as well as other indications, and *Piper sarmentosum* (*lá lôt)* for diarrhea and vomiting (Ogle et al. 2003:112-113). During the Second Indochina War, *to moc* (*Caesalpinia sappan L.* was mass-produced nationally for diarrhea and dysentery (Nguyen Van Dan 1970:124). Given the flexibility and non-specificity of Southern medicine in allocating treatments to symptoms, many of these plant substances are used to treat other illnesses as well.

North and South as "East"

The proximity of the practice of "Northern" and "Southern" medicine and their long historic coexistence means that they are not totally separable in their theory, content, or practice. As a result, they are sometimes presented as if constitutive of a synthetic whole: some authors argue that taken together, *thuốc Bắc* and *thuốc Nam* constitute "traditional Vietnamese medicine." (cf. Hoang Bao Chau 1998) Others gloss the complex of Northern medicine plus Southern medicine as "*đông y*," a term that is translated in English as "Oriental medicine," but conveys something more substantive in Vietnamese, owing to the difference between "*thuốc*," meaning medicaments, and "*y*", meaning the medical profession, medical studies, or medical theory.[115] The pleasantly "familiar" aesthetic quality of traditional medicine is often stressed in accounts of Vietnamese medicine, as well as its nontoxic and "gentle" quality by contrast to

claimed to predate Chinese influence in the region. (Hữu Ngọc and Borton 2003:15; Nguyen Van Huong 1965:22) Acupuncture was developed in Vietnam by the fifteenth century. (Lan Tuyet Chu 2001:266)

[115] David Marr dates the use of *đông y* to reference both Chinese and Vietnamese medicine to the 1920s and 1930s in Vietnam; a period when "to be 'Eastern' (…) meant defending spiritual values against the crass, materialistic West" (1987:44). Around the same time, he speculates, other Vietnamese may have chosen to gloss *thuốc Bắc* and *thuốc Nam* as "*thuốc ta*": our medicine, as opposed to *thuốc Tây* (Western biomedicine). From a Vietnamese perspective, this latter formulation incorporates Chinese and national medicine as counterparts and allies – while also somewhat ethnocentrically excluding the contributions of other Asian medical traditions. In English publications some authors simply refer to "TVM" to mean the complex of Northern, Southern, and "other" medical traditions.

"hot," toxic "modern" medicine (cf. Bui Chi Hieu 1993:30). While not everyone uses *đông y*, it is widely recognized and represented as a privileged and valuable part of Vietnamese cultural heritage at large.

Thuốc Tây: Biomedicine[116] and Public Health in Vietnam

Biomedicine is practiced widely throughout Vietnam, owing to the French imposition of biomedical materials and techniques during the colonial period and the reciprocal Vietnamese appropriation of these resources. Though the French colonial project in Indochina and elsewhere is often represented with approbation for the "modernizing" ambitions it achieved (Rabinow 1995), it is inaccurate to describe French governmental, administrative, political economic, and scientific knowledge and practices as if they constituted the first landfall of modernity upon Vietnamese soil (cf. Woodside 2006). Particularly, as the preceding discussion demonstrates, the medical technologies and institutions that travelled to 17th-century Tonkin with French Catholic missionaries did not enter "a health care vacuum" (Au 2011:4). In fact, biomedicine failed to garner the interest of Vietnamese elites or generate much popular appeal at the time of first contacts, owing at least in part to the superior efficacy of Vietnamese medicine (Marr 1987:42). David Craig notes that the Portuguese missionary Alexandre de Rhodes, the inventor of *quốc ngữ*, the Romanized graphic system for Vietnamese, "was impressed with the medical practice he saw in Vietnam in 1627" (2002:41). Perhaps this was because European medicine of the period relied on leeches to treat fevers, smoke fumigation against plague, and the "King's Touch" to cure tuberculosis (Haycock 2001). As late as the 1830s, with only quinine and a few

[116] I use "biomedicine" to refer to European allopathic medicine. Nguyen and Lock define it as a technology that "considers the human body (…) as everywhere essentially the same for the purposes of diagnosing and managing disease" (2010:1) and one "whose therapeutic power stems from biological efficacy alone" (2010:14).

other effective remedies, European medicine boasted only “slender therapeutic means”; epidemic conditions were beyond its scope (Marcovich 1988:115).

During their comparatively brief period of influence, the French established a heavy presence for biomedicine through the establishment of training institutions, research sites, and hospitals to provide health care and promote research in Vietnam and Indochina. While these institutions were most relevant to the Vietnamese elites who were eligible to receive services or medical training, French biomedicine touched the “native” population via measures such as large-scale preemptive disease surveillance, backed by the army and the police. The growth of biomedical training and health care in Vietnam reinforced the disparities that had existed between the life and health of members of the rural peasant classes and the social elites who were associated with the hierarchies of the mandarinate and institutions of French rule.

Following North Vietnamese independence in 1945, medical knowledge and public health practices progressed in a nationalist idiom, drawing both on biomedicine and indigenous pharmacopoeias and medical knowledge. Institutions and practices for securing the population’s health during the socialist period radically improved health outcomes for the peasant classes.

Commune Health Stations

The signature institution of socialist biomedicine was the commune health station, an institution developed to provide low-cost preventive health care at the scale of the nation. In the post-transition period these still endure, despite diminished state funding and concomitant dwindling of utilization by the public. In the course of my research I visited twenty urban ward health stations (*trạm y tế phường*) en route to interviews with households. Although I did not approach health stations as a formal research site, I had the opportunity to speak to their

personnel informally, to observe them as they worked, and to interview them if time permitted. And in the long lunch breaks between morning and afternoon interviews, I joined health station workers in eating lunch, watching Chinese soap operas, and chatting. While health stations are typically not nearly as crowded as hospitals, and lack the drama and the pathos of crowded waiting rooms and wards, they were nonetheless more than a way station to "the field." Health stations remain the primary physical institutions for the dissemination of preventive health materials and information to communities, and their shifting fortunes in the post-reform period are related to the resurgence of infectious disease in poor communities.

Health stations are functional spaces, bearing the economizing touches of a lower middle-class household, as well as the symbols of a facility belonging to the state. They are decorated with educational materials provided by the Ministry of Health; line drawings depicting best practices in things like sanitation and nutrition. In reception areas, health stations often hang a banner or tack up a placard with the phrase "A Model Doctor" (*Lương y như mẫu*), and Hồ Chí Minh's "*Y Đức*," a code for medical professionals enumerating the moral obligations for the professional conduct of health personnel. Suggesting that a health cadre must love and care for a patient like a brother or sister, Hồ counseled an attitude of friendliness and enthusiasm towards the patient and the patient's family. Literalizing the everyday or secular sacredness of Hồ Chí Minh, some health stations maintain an altar with a photorealistic potrait of the older Hồ against a bright cerulean background. At one health station, I was struck by a remark made to an employee who was patiently cutting out the pages from a large notebook so that the clean parts of the paper could be reused. "You're a child of Uncle Hồ," her supervisor stated ironically, to general laughter. The knowing quality of the moment of humor suggested to me that this was an

expression now recognized as trite and not relevant to the self-image of public health workers, despite the ubiquitous presence of Bác Hồ in their workspaces.

Though in theory all health stations are responsible for the same public national health programs and activities, and are staffed and stocked commensurably, the built spaces vary widely. Health stations in central districts of the city are typically simple one- or two-story buildings, continuous with the rest of the street. They usually contain a small reception area, a simple washroom, a room or two for patients to be treated (or health workers to rest), and a pharmacy. They are equipped with essential medicines, scales for weighing babies, and a blood pressure cuff, sometimes there is air conditioning instead of a ceiling fan; less frequently, they have an x-ray machine, ultrasound, and/or electrocardiogram. There is often a kitchenette and a TV or a computer. The offices feel compressed and narrow; small rooms are continuous with one another or separated by thin aluminum and glass doors. Interviews with a health care staffer took place in front of colleagues and patients, requiring me to reroute of some lines of questioning away from matters that I thought might be sensitive.

In wealthier neighborhoods, the historic support of communes for health stations appeared to have subsidized larger and more ambitious facilities, despite the tendency for commune health stations to serve a lesser proportion of well-to-do populations. In Long Biên district, for example, some health stations occupied entire free-standing buildings or gated complexes with multiple offices and wings. There were medicinal herb gardens, separate areas for dispensing traditional medicine (*y học cổ truyền*), large reception areas, meeting rooms, and areas for common meals.

Figure 8: Ward health station, Hanoi, spring 2010. Figure 9: Examination room, ward health station, Hanoi, spring 2010. Photographs by author.

Regardless of the size of a health station, the staff never seemed to number more than about seven individuals, typically with one or more nurses (*y tá*), a pharmacist or prescription clerk (*dược sĩ, dược tá*), a nutritionist (*diều dưỡng*) or midwife (*nữ hộ sinh*), and sometimes a specialist in traditional medicine (*y học cổ truyền*). Even when the reception areas of the health stations were untrafficked, the mostly-female staff was busy. In 2010, Hanoi's health stations were implementing over thirty programs in preventive health and education; as the nutritionist quoted below described, these were ambitiously scoped, but the state's reduced investment in preventive and community-based health made them challenging to execute.

ML	Do you feel the health station is overloaded?
Respondent	It is overloaded, because there are a lot of progr ams. Firstly, it's a crowded ward, but the health workers are limited in number. Being in charge of primary health services for for 25,540 people is really a little bit too much. And really there are a lot of programs. Treating disease is just one part. One small part in the work of the health station. We implement going down to the community (*xuống cộng đồng*) a lot. Going down to the community, initially caring for health is important, but we propagandize (*tuyên truyền*).

ML What are some of the main activities of the programs?

Respondent It depends on each program, there are separate activities, but the majority is general community activities. For example, like expanding vaccination services, you can both vaccinate and advise. For example, secondly is epidemiology, we go down to the community quite a lot. Most of all when an epidemic is happening. (…) Giving out fliers, propagandizing about disease prevention, organizing spraying and propaganda sessions for the people. All that work, we do a lot. After that, giving guidance about child nutrition, about breastfeeding and about nutritious meals to guarantee that children get all the nutrients they need. That's the community nutrition program. And checking fetal growth for pregnant women, managing, following up, and advising. – Nutritionist, Long Biên district, Ngọc Thụy ward, August 31 2010.

Despite the capacity of many commune health stations to provide curative and preventive health care, interview respondents often indicated that they did not often use health stations, except for some basic services like childhood vaccinations or blood pressure checks. Respondents who used private services were often personally acquainted (*quen*) with a health care provider. Having a neighbor or a family member with medical training who could be called upon was better than waiting in line at the hospital. Other options included seeking services at the hospital specified by health insurance, or to self-treat by purchasing their own medicine at the pharmacy and use it at home. However, respondents' frequent repetition of public health messages, even in the poorest urban households, suggested that the health services had successfully disseminated several messages regarding hygiene, sanitation, choice of food, and food preparation, even when the means were not necessarily available for the full implementation of the measures specified. Though some men and women could not recall the exact details of what they had been told (cholera was frequently confused with dengue fever, for

example), respondents remembered hearing about cholera via loudspeaker, television, radio, and from printed materials that had been distributed throughout the neighborshood.

Health from the Other World

> *Thầy chữa bệnh không chữa mệnh*.
> Doctors can deal with illness, but not alter fate.
>
> – Proverb (Marr 1987:40)

As anthropological research has detailed in many other parts of the world (c.f. Evans-Pritchard 1937), religiously inflected diagnostic and healing practices, though perhaps not exclusively classifiable under the rubric of medicine, nevertheless represent a robust system of popular thought and practice in Vietnam. This category of medical practice is even less codified and internally consistent than *thuốc Nam*: it includes folk or popular forms of healing that individual and families practice without intermediaries, but may also extend to more formalized and institutional events where experts such as Buddhist monks, fortune tellers (*thầy bói*), astrologers (*thầy số*) or geomancers (*thầy địa lý*) provide services including divination, diagnosis, and healing. This category also includes beliefs and popular traditions addressing the influence of harmful spirits, a category so polythetic that "no single term identified this approach to disease and healing. The spirits went by many names, and techniques for dealing with them were innumerable" (Marr 1987:36).

It is a commonplace of Vietnamese studies that social life has two aspects, the mundane and the otherworldly; and just as everyday "official" life is complicated by an overlay of multiple and competing rationalities, the "other" world is marked by heterogeneity and polyvocality. The pluralistic quality of medical styles of resort is equaled by the variety of

religions observed by Vietnamese people, which include Mahayana Buddhism, Confucianism, Taoism, ancestor worship, Catholicism (primarily in South Vietnam), and uniquely Vietnamese religions. This latter category include, for example, the Cào Đai and Hòa Hảo religions, whose adherents are mostly concentrated in South Vietnam, and spirit possession "cults" such as Tứ Phủ (Four Palaces) and Đạo Mẫu[117] (Mother Goddess), which function as healing as well as religious resources in contemporary émigré Vietnamese communities as well as in contemporary Vietnam (Nam Nguyen 2001, Nguyễn Thị Hiền 2007).

During the socialist period, religious healing practices have been subject to official non-endorsement or repression,[118] and in present-day Vietnam they are often critically appraised as forms of "superstition" (*mê tin dị đoan*).[119] Currently, though spirit possession, divination, and faith healing are formally prohibited by law, in practice the faithful are "subject to uneven policing" (Taylor, P. 2008:8). In post-market transition Vietnam, some communities have begun to revive religious practices in private and public life (Taylor, P. 2008), and even Vietnamese individuals who disavow affiliation with formal religion engage in cultural practices that acknowledge the power and agency of nonmaterial forces. For example, nearly everyone responded "no" when I asked if their family was religious (*theo đạo*) (cf. Salemink 2008), and people also sometimes went on to state "No, we're Vietnamese" – meaning, not members of an

[117] Đạo Mẫu features a unique ritual of spirit possession (*lên đồng*) that features female or male transvestite mediums – a surprising institution in contemporary Vietnam, where female control of institutions and feminine idioms of power are unusual and where homosexuality, though not criminalized, is generally stigmatized (Fjelstad 2006).

[118] For example, a 1958 speech by President Hồ Chí Minh addressed the importance of suppressing spirit possession rituals, perceived as antithetical to conservation of resources and productive labor: "Last year, *dong bong* [i.e. *lên đồng*] and 'the procession of spirits' (*ruoc xach than thanh*) were revived. If that kind of restoration is carried out in the countryside, many places will forget production and continue to drum and sing willy-nilly. Some communes spend millions of Vietnamese *dong* buying clothes, hats, and shoes. Is this kind of restoration of old traditions right?" (Norton 2009:28)

[119] "Superstitious" beliefs and practices are implicitly associated with women and other groups excluded from formal power: "rural people, urban traders, regional groups, and ethnic minorities." (Taylor 2008:10)

ethnic minority group. Nonetheless, the follow-up questions "Do you have an altar in the house?" or "Are you Buddhist?" almost always prompted a laugh and the response "Of course, like everyone."[120]

Beyond this, many friends and acquaintances discussed making trips to city pagodas to ask (*cầu*) for desired outcomes, some female friends talked openly about visiting fortune tellers and almost all Vietnamese families observe household practices that include the offering (*cúng*) of food, liquor, cigarettes, incense, and votive goods to the spirits of deceased family members on the home altar; burning votive paper (*vàng mã*) for the house god (*Ông Địa*) in the street on the first and fifteenth days of the lunar month; and consulting the lunar calendar for lucky and unlucky dates, especially when planning a wedding, funeral, travel, or the construction of a house. Mrs. Trần Thị Lan described how frequent trips to the pagoda played a role in her efforts on behalf of her 35-year-old son, who had suffered severe psychological problems after returning from military service.

> In the old days I often went to the pagoda, to Quán Sứ pagoda in Hanoi; to all the pagodas near here, I've been to all of them. We have so many books from the pagodas, I study them, to have a good heart (*có tâm*) and to be virtuous (*có đức*) for my husband and child and for going out into society. We have a lot of CDs from the pagoda to study prayerful mindfulness (*tâm niệm cứu độ*), for [my son] to get better. …My husband is also mindful; he goes to the pagoda in Bắc Ninh. He took a statue of the Buddha up there, to pray for the family and the children. The pagoda agreed, they stamped it to bring back to our house and take reverent care of it (*thờ*) for our son to heal. … I'm old now and want to pray for luck (*cầu may*) for my family, for my son to succeed in destroying his disability. … My dream is that my son will recover, nothing would be as happy. – Trần Thị Lan, female, 61 years old, Long Biên district, Sài Đồng ward, August 11, 2010.[121]

[120] Home altars (*bàn thơ tổ tiên*) are used to worship ancestors, a very widespread practice in North Vietnam. Buddhism is also extremely widely practiced (Hue-Tam Ho Tai 1987).

[121] As this respondent's remarks demonstrated, she did not perceive her Buddhist beliefs as incompatible with commitment to the ideals of the socialist state. As a younger woman, she had participated in both the First Indochina War and the Second Indochina War; afterwards, she had worked at a factory for over forty years. She expressed her gratitude to the neighborhood, the ward, and the city for their support of her family, and even stated "I am always thinking about the Party; the state is like a second mother and father."

This woman, whose circumstances had motivated her to pursue medical alternatives aggressively for her son's apparently intractable condition, had also consulted a religious healer. The respondent compared the healer's services favorably to hospital care, emphasizing the differential measures of certainty of cure and certainty of financial obligation:

> Up on the Công River there's a Miss Phú. I've gone up to her four times already. She is a healer (*cứu nhân độ thế*[122]), and doesn't take money from anyone. Many people go to Bạch Mai hospital and aren't cured (*khởi*), they go to her and are cured. Many people sell their home and don't heal. But they go to her, don't spend anything, and are healed. … If you go to the hospital, you don't know how much money you'll spend, but if you go to her you don't spend a cent, and afterwards you're healed. If you want to thank her [with an offering of money, *hậu tạ*], you just give as much as you want to. – Trần Thị Lan, female, 61 years old, Long Biên district, Sài Đồng ward, August 11, 2010.

Other forms of noncodified religious beliefs are also common in Vietnam. Belief in the presence of place-bound ghosts and their agency is widespread; as Heonik Kwon has shown (2008), ghost beliefs and stories, though discontinuous with the officially sanctioned worldview of socialism, remain a robust resource for expressing political as well as spiritual sentiments in post-war, post-market reform Vietnam. Though "supernatural" beliefs are publicly associated with poor, rural, uneducated, and female persons, formally educated persons with official positions also enjoy recounting stories of the supernatural. A scientist friend captivated me with her accounts of a reputedly omniscient Nha Trang fortune teller as we sat in her laboratory. Equally materially minded friends liked to share stories of body-finding geomancers, family members who experienced ghostly possession (*bị ma nhập vào*), American ghosts, undead grandmothers, and other personifications of the uncanny. Though in interviews my respondents often declined to cite supernatural means among their strategies of resort, friends often related their efforts to resolve health, financial, vocational, romantic, and other difficulties via

consultations with fortune tellers and visits to Buddhist temples and other stations of spiritual expertise, and I was taken on one such trip myself when the neighborhood police threatened to evict me over the matter of my improperly prepared residential registration.

During my interview with Mrs. Lan, quoted above, her husband arrived home midway through our conversation and insisted on demonstrating his clandestine specialty of fortune telling. Given that Mrs. Lan had characterized her life as marked by personal sacrifice on behalf of the nation, I was surprised by the family's adherence to the heterodox practice of fortune-telling. After impressing me with a reading of my astrological chart, hand, face, and cards, the husband replaced his collection of esoteric books in a suitcase, which he returned to its place behind the television. At the conclusion of our session, the couple acceded to my request for a photograph. Mrs. Lan came out to pose in the narrow courtyard, holding a small Vietnamese flag – an unusual gesture for anyone not celebrating a soccer victory or a national holiday – while reminding me: "This [fortune telling] is our thing, don't tell anyone (*Đây là chuyện của chúng tôi, vậy không nói với ai đâu*)!" Her statement of caution was a request that my translator and I should refrain from mentioning her husband's ability to any neighbors we might interview later, and that we should also refrain from making any remarks to the staff of the commune health station. Mrs. Lan's gesture of grasping the flag in the courtyard seemed almost like a method for dispersing the superstitious aura generated in the privacy of the house, appropriating a symbol of officialdom to disavow accusations of being "superstitious."

Though interpretations of the causes driving these phenomena differ, it is nevertheless evident that materialist ideology of the Communist Party is only one among many worldviews available to Vietnamese subjects. In themselves, the meanings of these practices, and the beliefs

[122] The phrase *cứu nhân độ thế* "reflects the Buddhist belief about *'nhân quả'* (sowing a good seed by saving people

and sentiments that inform them, are complex. There is no literature yoking together the mutually constitutive significances of health and healing, beliefs about luck, kinship, and household expenditure. However, as conversations with friends managing health concerns suggested, these values frequently operate together. However, in contemporary Vietnam, under the circumstances of market transition combined with the state's informal toleration and benign neglect of religious or quasi-religious beliefs and behaviors, luck, money, and health operate in loose association, a magical relationship of correspondence and conversion – slippery, commensurable ontologies that flowed together and transformed into each other.

In the speech of many Vietnamese people, "luck" (*may rủi, hên, xui*) references chance, but is also connected to fate (*số phận*), which is understood as a master motive force behind life events. For example, "it may have been bad luck that he broke his leg skiing, but it was also his *số phận* that it would happen. This may be connected to his astrological sign. The year of one's birth is usually considered unlucky" (Hue-Tam Ho Tai, personal communication, February 19, 2010). As Hue-Tam Ho Tai suggests, luck and destiny are aligned with the lunar calendar, affording individuals the impression of predictability and therefore introducing some degree of control. Luck and fate are not the exclusive properties of a given individual and their choices, however, but are also mediated by kin relations:

> Additionally, one's fate depends on '*phúc đức*' that is a legacy of good or bad bequeathed by ancestors; therefore, when someone experiences good fortune, it is often said that '*nhờ phúc đức ông bà để lại*.'[123] Conversely, when someone experiences ill-fortune, it is because that person's ancestors (or that person, in a previous life) had done something bad. One's own good or bad actions also have good or bad consequences for oneself or one's progeny. I was told, for instance, when someone who had participated in smashing idols during the Cultural Reform campaign fell gravely ill (or one of his household experienced misfortune) it was because he had exhibited '*thất đức'* [unrighteousness]. So in

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and harvesting the good result for life)" (Quynh Le n.d.:10).

[123] Owing to the legacy left by the grandparents' generation.

> lighting incense sticks to ancestors, one is discharging one's filial duty toward the ancestors and, presumably, ensuring their benevolence ('*phù hộ*'). [Hue-Tam Ho Tai, personal communication, 2010]

The action of sacrificing money[124] for health is carried over to supernatural forms of health care in Vietnam. Money, real and fake, is converted into luck via burning and offerings. (As a young friend remarked whimsically to me, this form of communication with the other world [*thế giới khác*] is "like wi-fi." Small-denomination bills are dropped out of the windows of vehicles traveling to weddings and funerals. A friend described to me how her a husband's cousin tossed bundles of new 5,000 đồng banknotes into the air on the auspicious first moments of the Lunar New Year, scattering a force field of luck through the house. Small gifts of "lucky money" (*lì xì*) are distributed to friends and, especially, children at the Lunar New Year in red envelopes. Sometimes the envelopes are decorated with cartoon characters or Chinese characters; others are printed with ông Phúc, ông Lộc, and ông Thọ – three Chinese "genies" who personify happiness, wealth, and old age.

Though increasingly Vietnamese people may be inclined to agree that it is "your pocket that cures you" (Foley 2009), health, like other natural phenomena, is also regarded as subject to luck and fate. The quality of luck is sensitive enough to social reverberations that Vietnamese etiquette recognizes that speaking aloud about something inauspicious might bring it into being. As a result, there is a certain implicit social delicacy in making inquiries about health. To ask

[124] Parallel to these religiously motivated sacrifices and exchanges of real money is a robust economy of fake money. When people go to the pagoda to pray (*cầu*), they make offerings of votive money (*vàng mã*), including counterfeit US banknotes called "hell dollars" (*đôla âm phủ*) as well as small-denomination banknotes (Kwon 2007). The same simulacral money is burned on home altars for ancestors and for the house god (*Ông Địa*). During the Vu Lan days (*Ngày Vu Lan*) in the eighth lunar month, votive objects are also burned for ancestors: replica commodities including shoes, shirts, motorbikes, and houses. Some strict Buddhists feel these behaviors are improper and represent an attempt to bribing one's ancestors – as if spiritual economies were also subject to fixing and corruption (Viet Nam News 2010). As a friend said, "It's not Buddhism to burn paper for your ancestors, because Buddhism wants your ancestors to do their own work, for themselves, and you should not supply them with paper votive goods" (Field notes, May 2010).

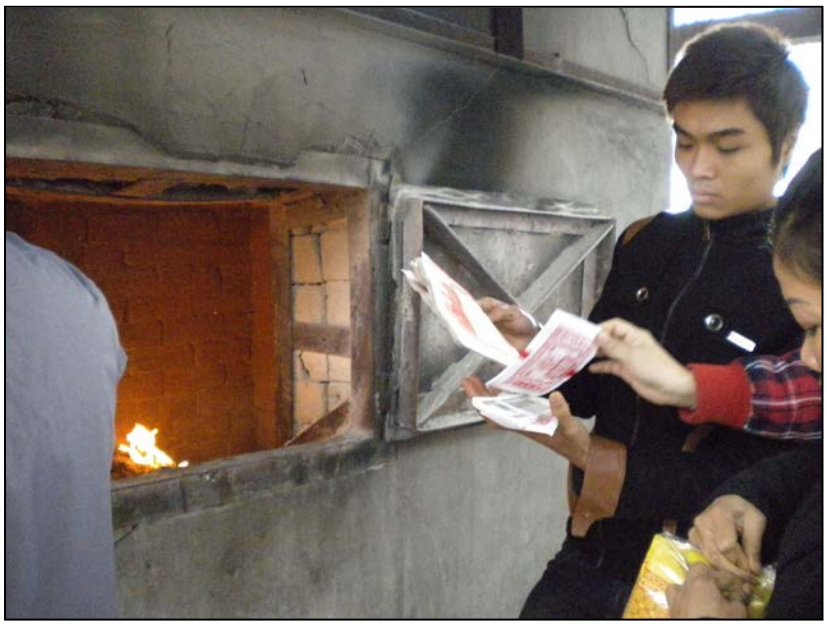

Figure 10: Burning votive money at New Year, Phủ Tây Hồ (West Lake Temple). Photograph by author, February 2010.

directly about health seems to risk exposure to bad luck, or even bad spirits (*xấu vía*). This especially obtains when speaking about children: it's polite to acknowledge the delicate, contingent nature of their health and indicate the wish for future health by adding the phrase "*trộm vía*"[125] when praising a baby or child.

The social sensitivity of discussing real or hypothetical health problems posed methodological difficulties for interviewing. Making my questionnaire more exhaustive, I sometimes thought, would have made my interview data more accurate (in retrospect, I believe this would not have been the case). It would, I sometimes thought, be useful to pose a simple list of questions about disease history to every respondent: "Have you or a family member ever been diagnosed with malaria? Tuberculosis? HIV? ..." But I had a nagging feeling that such insistently, explicitly medicalized questioning about health would not only register as

[125]Loosely, "thank god," or "by the grace of god."

intimidating and intrusive, but that it might also cause the respondent anxiety by giving voice to unfortunate possibilities that might befall the family. Indeed, as we were scheduling our field interviews, one of my research assistants noted that asking about cholera in the happy, auspicious period after the *Tết* holiday might provoke uncomfortable feelings. Further attempting to mitigate the potentially threatening quality of one question, my assistants often spontaneously modified an item in the questionnaire, rephrasing it to acknowledge the weight of luck in underwriting health: "If, *unluckily* (*không may*), you or a family member were seriously ill, would you be able to afford health care?"

What Everyone Knows about Health

Vietnamese people select from a variety of historically and culturally legitimated medical discourses, theories, and practices when facing illness or attempting to protect or improve health. Individual health behaviors often involve multiple schools of medical thought, sometimes serially and sometimes simultaneously. Like laypeople everywhere, they have recourse to a large, flexible corpus of "traditional" common-sense health beliefs and practices that ground everyday thought and behaviors related to the body. They draw on the medical traditions described above – Northern medicine, Southern medicine, and various religious models of disease causation, including beliefs regarding luck. They also draw on biomedicine, whose history in Vietnam is more recently imported but nevertheless influential. Loosely, styles of accounting for disease causation "include three nonexclusive explanatory systems, which can be typified as natural, supernatural, or metaphysical" (Ladinsky 1987:1107). While I have heard Vietnamese friends entertain the possibility that all three of these categories of disease causation – natural, supernatural, and metaphysical – could play a role in causing some specific bodily

ailment, it was more usual to overhear people citing more secular and material forms of common sense about health and the body, health care and disease. People especially frequently comment on the impact of the natural environment (or the built environment) on pleasant or uncomfortable physical feelings, strong or weak health – for example, commenting with pleasure on the good feelings of a 'spacious and cool' (*thoáng mát*) lane with well-spaced houses, trees, and shade.

Weather and environment are commonly cited as causing ill health for Hanoians, whose four-season climate features temperatures that range from burning to freezing. Most buildings, especially the homes of the poor – but also university lecture halls and health stations – have no air conditioning, insulation, or central heating. People bundle up in cotton coats (*áo bông*) in winter and make the best of it, complaining about the effects of cold (*lạnh, rét*). During the warmer seasons, the heat and light of sunny weather (*nắng*) have an insidious way of fatiguing a person, creating dizziness, headaches, and jittery feelings. Some Vietnamese women protect themselves from the sun by wearing long gloves and "anti-sun shirts" (*áo chống nắng*) while traveling or working outdoors. While generally extreme heat is perceived as just uncomfortable, it can also cause illness, as one respondent explained:

ML Why did [your son] have a lung infection?

Anh Phụng When he was born the weather that year, in 2003, it was very humid and uncomfortable. – Nguyễn Minh Phụng, male, 39 years old, Hoàng Mai district, Thịnh Liệt ward, March 4, 2010.

Dust (*bụi*), the result of traffic and construction, is also sometimes noted as a physical annoyance or a health risk, especially when continuous with dirt; "dusty" (*bụi bặm*) air is unhealthy, and cited as a source of food contamination as well as respiratory disease. However, things that are "familiar" (*quen*) – substances, experiences, climates, physical exertion, and so on – are understood to be less noxious to someone who has had prior experience than they would be to

someone exposed for the first time (cf. Craig 2002).[126]

Theories of the body's health in relationship to the environment are also based on principles of more subtle, less objectively fixed coordinates. Humoral philosophies of health are very commonly employed in making sense of an illness episode, with "changing weather" (*trái nắng trở trời, trái gió trở trời*) frequently cited as a cause of sickness or discomfort, and sometimes stated to have impacts on biomedical concepts like "nerves," (*thần kinh*) "respiratory system" (*đường hô hấp*) and "blood pressure" (*huyết áp*). Being hit by the wind (*bị đánh giò),* a concept related to changing weather, can also cause sickness, but fresh air is considered so important to good health – and, implicitly and relatedly, to social relations – that Hanoians leave their front doors open at all times of day or night and in all kinds of weather, including especially during the cold days of the *Tết* celebration, when good luck, neighborliness, and transparency are called for. Opening the windows at the New Year to let cold air flood her sitting room, a Vietnamese friend explained "You know, for *phong thủy*."[127]

The influence of humors forms part of the Vietnamese lay perspective on health and

[126] Medical anthropologist David Craig has theorized the flexibility of household repertoires of health care seeking, suggested that the concept of "familiarity" has been extended to include antibiotics and other forms of Western medicine as they have become more accessible and affordable. In this way, previously rare medical technologies have become indigenized into a repertoire of previously sedimented understandings regarding properties of medical substances, bodies, and their interaction (Craig 2002). In the below interview excerpt, Mr. Thanh states that he is "used to" certain antibiotics.

Martha Lincoln	What types of medicine do you usually use?
Ông Thanh	Just antibiotics. I'm old and have to use them, my lungs are weak, you know. And my nerves are bad. I have to take nerve medicine.
ML	What kind of antibiotics do you use?
Ông Thanh	Penicillin, streptomycin. Those are to treat a cough. And Cloxit [chloramphenicol].
ML	Do you take them according to a prescription?
Ông Thanh	No, I'm used to using them [*dùng quen*] so I just buy them. [Nguyễn Văn Thanh, male, 74 years old, Long Biên district, Đức Giang ward, August 3, 2010.]

[127] Literally, "wind and water." Cognate to *feng shui* in Chinese, this term references beliefs about the harmonious coordination of built spaces with natural forces. Good *phong thủy* in a house or a room facilitates the circulation of energy (*khí*) whose patterns can be determined by a geomancer. The practice of geomancy is experiencing a revival in neoliberal Vietnam (Harms 2012).

disease causation: especially, the equilibrium between internal and external hot/cold and moist/dry elements affects health or gives rise to disease. Winds and vapors, extremes in temperature or precipitation, and, especially, changes in the weather are commonly understood to make the body vulnerable to poor health, especially colds and flu (*cảm cúm*) but also headaches, fatigue, and feelings of boredom (*chán*) or sadness (*buồn*). In interviews with families and informal conversation, people often described the environment as a source of discomfort and potential health risk, as below:

> ML — Do you know what makes you feel sick so often?
>
> Cô Bình — It's probably because the climate or the environment, it's like the climate now is harsh almost all the time. In the morning it's cold, then in the afternoon it's hot, and in the evening it's cold, that's why it's hard. I'm old already, so it's hard. In the old days the cold was a real cold. Here in the morning it's cold, in the afternoon it turns hot. The environment has the smell of all the coal briquettes, specifically, or some other [polluting] thing. (*Môi trường nhiều các mùi than tổ ong chẳng hạn, hay là gì đấy.)* - Nguyễn Thị Bình, female, 58 years old, Hai Bà Trưng district, Bách Khoa ward, April 26, 2010.

Similarly, eating foods that were too hot or too cold is understood to cause predictably difficult health consequences, including diarrheal illness.[128] The below respondent, while proposing several different models of causality and making a distinction between the causes of more mild and more severe symptoms, nevertheless underscores the importance of avoiding cold foods to preserve health.

> ML — How are cholera and diarrhea different?
>
> Cô Hoa — One of diarrhea's 'directions' (*đằng*) is unclean eating and drinking, whereas 'the runs' (*đi chảy*) is [caused by] one's health

[128] The categories of "hot" and "cold" are not qualities of temperature, but qualities of effects upon the body, and although the contents of these categories are debated, every edible substance can theoretically be classified along the hot-cold axis. Durian fruit is heating, as is chocolate, dog meat, ginger, jackfruit, alcohol, and antibiotics; jicama (*củ đậu*), bitter melon, green bean (*đậu xanh*), cucumber, snails, and lotus stalk are cooling.

isn't strong enough to stand it. Rain or sun, it comes down, it makes your stomach cold, it chills your stomach, and that's what causes diarrhea to start. Besides that, there is nothing [i.e. no other cause]. As for cholera, it's caused by careless eating (*ăn uống bừa bãi*), and it can cause death.

ML Does your family do anything to prevent cholera?

Cô Hoa I don't do anything, nothing at all. If you eat [properly], you're safe. If you eat clean [food], keep the house warm, then you can't get sick. I'm old now and my health is weak; I can't eat anything cold, just warm things. – Đỗ Thị Hoa, female, 63 years old, Hoàn Kiếm district, Hàng Bồ ward, August 20, 2010.

Vietnamese people also commonly reference the influence of climate and environment in affecting health and disease. My interviews inquired about recourse to non-biomedical interventions, making space for responses that were less "like policy" and potentially more accurately descriptive of the broad range of health measures used by individuals in their homes and communities. These conversations ultimately demonstrated to me that official explanations of cholera that drew on environmental or humoral models of cholera causality – citing weather and certain types of foods – were commonly accepted because they corresponded to preexisting explanatory models.

Vietnamese Medical Pluralism: Explaining Cholera Five Different Ways

If the question "what is cholera?" was complex in 19th century Europe, in Vietnam it has historically been articulated through an even more diverse assortment of medical systems. The medical repertoires historically practiced in Vietnam which I have discussed above all have familiarity with cholera and provide specific indications for its diagnosis and treatment. Comparing these distinct accounts of the disease allows a comparative reading of these distinct

medical styles of thought.

In traditional Vietnamese ("Southern") medicine, cholera, like other diarrheal illnesses, is treated by a variety of locally available plant remedies, requiring minimal expertise and simple processing. Presumably, these remedies were developed "empirically," based on experience instead of a theoretical model of the body and its systems. Depending on symptoms and etiology, Southern prescriptions for diarrheal disease vary somewhat. By contrast, traditional Chinese medicine understands cholera in terms of the symptom of fluid loss, and as such is treated as an imbalance to be corrected by rehydration.

During the colonial period, biomedical models of cholera control and prevention were provided to Indochinese colonial subjects by the French medical services, and were often met with resistance. However, "Western" colonial biomedical approaches to cholera treatment and eradication were appropriated by the Democratic Republic of Vietnam during the period of building a socialist medical system with national coverage, and the revolutionary context importantly reshaped the scale and political meaning of these technologies. In the DRV, education, hygiene, and vaccination initiatives were deployed at a mass level to control and eradicate cholera, which was understood as a symptom of lack of education as well as poverty. Unlike the militarized, alienating tenor of French biomedicine, socialist biomedicine exceeded the imperative to confer "herd immunity" on the population via vaccination, and invested in the training of an army of health workers to propagandize and educate. This was accomplished, in part, by the development of traditional poetic forms to educate peasants about cholera, germs, and poor hygiene – a strong example of "cultural competence" by the architects of the new

medical system.[129] While these messages were easy to understand and memorize, however, they often supplied rules without providing much explanation or rationale for adopting certain habits.[130] This tendency persists to the present day: for example, the Vietnamese food safety mantra "Eat cooked food, drink boiled water" (*ăn chin, uống sôi*) is arguably not a comprehensive direction for preparing and storing food safely in the home.

Historically, Vietnamese people have also understood cholera epidemics as the effect of malevolent supernatural forces which had to be battled, propitiated, or at least distracted. In present-day Vietnam, although collective action against the influence of "ghosts" or "demons" would be unusual, nonmaterial causes of illness are still recognized. In particular, humoral causes of illness are frequently cited, but the interaction of "luck" with health is also an important nonmedicalized source of etiological modeling.

While official statements about the cholera outbreaks in Hanoi and its causes ostensibly drew on biomedical models of disease, I suggest that other considerations also influenced the health authorities in naming dog meat and shrimp paste as the key sources. This explanation represented the conflation of biomedical and non-material knowledge. Because dog meat is recognized as a food popularly associated with schemata of luck and bad luck, the common-sense association between its consumption and serious illness exemplifies what one Southeast Asian studies scholar ironically referred to as an instance of "secular karmic justice."[131] In addition, because shrimp paste is a raw food, it was easy for laypeople to conflate it with the

[129] Historian David Marr cites, for example, a poem titled "Germs Cause Cholera Very Quickly," which was recited to him by a woman "who learned it while living in a Viet Minh liberated zone in the late 1940s" (Marr 1981:187).

[130] Not all health education was simplified of science: in some villages in the early 1960s, people were encouraged to look at waterborne parasites magnified under microscopes in order to understand the potential dangers of drinking raw water. However, reports suggested that these experiences did not always achieve lasting results (Hickey 1964:118).

category of unsafe raw foods like raw vegetables, especially after health services publicized it as a risk factor for cholera infection. Further, the position of dog meat and shrimp paste as respectively "hot" and "cold" foods made them seem like potential disruptors of normal digestive function. While scientism, or its appearance, underwrote the epidemiological association of cholera with these foods, other "cultural" associations opportunistically converged to make them seem suspicious to people of diverse backgrounds of belief and education.

Cholera and Public Health in Vietnam from the Colonial Period to the Present

While cholera cases in a population are the result of risk factors that are environmental and domestic – including the "social determinants of health" – it is also meaningful to draw connections between cholera epidemiology and the context of the health care system (or systems). In Vietnam, this is particularly of interest because of the enormous transitions that have taken place in the health care sector since reform.

When I traveled to city hospitals in Hanoi and Saigon to meet physicians or researchers, I was impressed by the crowded waiting rooms, lobby benches occupied by the maximum number of sick patients, and the noise and commotion surrounding wards and treatment rooms. Bạch Mai hospital's overcrowding was visible everywhere, from the parking lot to the amount of laundry hanging from the balconies of the oncology ward. Courtyards between wings were filled with families resting on the grass, waiting for news or taking a break from caring for a family members, and patients were infamously assigned two, three, or even four to a bed.

These stories are often used in media to represent the "new" Vietnamese society as unregulated, chaotic, and unable to administer modern institutions. However, it is clear that the

[131] I am grateful to Dr. Jeffrey Hadler for this felicitous phrase, which he shared at a presentation given at the Center

crowding of city hospitals is not an accident, but the direct result of the implosion of the primary health care system and the subsequent medicalization of society. The city's health stations, formerly the health sector's signature institution under socialism, are quiet, barely trafficked by patients. In the post-reform period, Vietnamese people have increasingly sought care at city hospitals and private clinics in preference to health stations, which are perceived as offering less knowledgeable or skillful care. In this final section, I historicize the development of Vietnam's public health, its experience of cholera and other infectious diseases, and the development of its health institutions after independence.

Public Health and Biomedicine in Colonial Indochina (1860-1945)

Despite the commitment of French colonial policy to administration through records, relatively little is understood today about Indochina's demography during the colonial period. Administrative counts of the subregions provide data "of very poor quality" (Hirschman 1994:393); as a result, the historical demographics of Vietnam are obscure, similar to those of Laos and Cambodia. However, other data – on disease prevalence, on estimated mortality, and anecdotal and documentary evidence of Vietnamese reactions to imposed medical practices – help compose a picture of the public health and cultural impact of French colonial measures. Such data indicate that prior to independence, the majority of the population was inordinately vulnerable to ill health. They also suggest that colonialism contributed to poor public health outcomes, especially in urban areas, by exposing the population to novel pathogens and accelerating transmission via the development of trade and transportation routes.

Though the ideological legitimization of the French colonial project relied on the

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for Southeast Asian Studies at UC Berkeley, April 25 2012.

purported benevolence of the *mission civilisatrice* (Monnais 2006, Trankell and Ovesen 2004), Vietnamese commentators emphasize how interpersonal and structural violence marked the social relations between colonial subjects and masters. The ideal of egalitarian and universal provision of effective, equitable health care had contributed to the legitimacy of the Vietnamese Communist Party since its founding in the 1920s (London 2008:116-7). Medicine and medical practitioners played a significant role in the formation and articulation of the anti-colonial effort to expel the French. Despite French attempts to coöpt Western-trained Vietnamese doctors while suppressing the influence of traditional medical practitioners, members of these groups were drawn together in their support for nationalist groups in the 1930s and 1940s (Thompson 2003:130), and provided resources that contributed significantly to the success of the Việt Minh.

The earliest public health initiatives in French Indochina were smallpox vaccination campaigns and the creation of the first civilian hospitals in the 1860s, prior to the formation of the Indochinese Union in 1887, when a small independent budget became available for health care (Monnais and Tousignant 2006:139). Ultimately, French colonial medicine in Indochina was organized as "a multilevel public health apparatus," which had directorates in each of the five administrative regions of Indochina as well as in provinces and cities (Malarney 2007:33). However, for at least the first forty years of French rule in Indochina, preventive and curative medicine for the native population did not rank among the primary goals of the colonial medical institutions, and therapeutics "were *not* a significant tool of medicalization in Vietnam before the end of World War I" (Monnais and Tousignant 2006:139). Vann attributes this to cost-saving by the colonial administration:

> The French did not spend their precious resources on projects dedicated to the direct benefit of the Vietnamese. Instead, the non-white population was allowed to live in … unhealthy and unpleasant conditions (from the French perspective) so

> long as there was no direct complication to the white community's comfort. [Vann 2007:286]

However, by the mid-1920s, the impetus for a more interventionist public health increasingly began motivating colonial doctors to travel directly to the Vietnamese population in service of the French medical mission in Indochina: to "vaccinate, record, disinfect" (Vann 1999:324, Monnais-Rousselot 2002b:4). This tendency in French public health became especially pronounced during periods when infectious disease broke out in regions where colonials were potentially vulnerable. Mass vaccination and the registration of deaths to Hanoi's "native" population (the former while excluding traditional Vietnamese physicians from participation [Thompson 2003:117] and the latter sometimes occasioning mass protests [Vann 1999:347]) were extended forcibly as an internal *cordon sanitaire*.

Through the 1930s, the French administration's campaigns against plague and cholera in Hanoi entailed numerous initiatives carried out by force – including vaccinations, removal of deceased bodies, quarantines of family members and neighbors, disinfections of disease-affected houses, and even the burning of personal possessions, commercial articles, and homes (Vann 1999:335-6). These measures, along with the presence of armed police accompanying medical personnel, contributed to an ethos of coercion in French public health, underscoring not so much the valuation of Vietnamese lives but the colonial dread of a general epidemic. While some Vietnamese people sometimes accepted biomedical interventions – as after the 1937-8 cholera epidemic, when "9,650,000 people, or about one-half the population, accepted inoculation" (Marr 1987:47) – others resisted: "In many villages at the turn of the twentieth century, whoever had a little money would pay off substitutes to replace them when summoned to vaccination sessions, while mothers were seen sucking their children's arms to remove the harmful

substance" (Monnais and Tousignant 2006:143).

Vietnamese perceptions of Western medicine as foreign and violent are visible in Vietnamese documentary records as well as French accounts of panic and resistance. During one notorious episode in 1903, the French detained hundreds or perhaps thousands of individuals in the Temple of Literature (*Văn Miếu*), a religious and cultural monument of profound national significance (Malarney 2003), in an effort to control an outbreak of bubonic plague in Hanoi. Internees' letters from the episode testify to the fear and pain associated with biomedical measures, which included the biopsy of tissue specimens and forcible vaccination. One missive stated that the French approach to public health felt like "the state treading on our necks" (Malarney 2003:31).

However oppressive, the extension of biomedical services to Vietnamese populations was limited. Throughout the colonial period, Western-trained health personnel and resources remained disproportionately dedicated to serving the health of the comparatively tiny European population. By the 1930s, when the medical administration had become more complex and diversified than the initial multi-level public health system described above, the situation of health care resource provision was still marked by enormous disparity; given that the high-quality medical facilities used by the French population were only accessible to Vietnamese elites (Malarney 2007:35-6).

An estimation of the health care facilities per capita in 1931 demonstrates a rate of health care facility provision at 0.14 health care facilities per 1,000 Europeans in Indochina, while the figure for 1,000 Vietnamese was only 0.03 (Malarney 2007:41-42).[132] The provision of health personnel to the two populations was even more disparate: in 1931, the ratio of health workers to

European patients was 7.643 to 1,000; for Indochinese patients, the ratio was 0.126 to 1,000 (Malarney 2007:44). Finally, a comparison of the health financing respectively available to French and Vietnamese patients demonstrate that in 1931, "the Europeans and their collaborators on a per capita basis had access to at a minimum 10.9 times the health related resources than the Indochinese" (Malarney 2007:40). Fear of infectious exposure also motivated the French to establish medical centers almost exclusively in the cities where the colonial administrators made their homes.[133] From 1893 to 1917, the French constructed numerous hospitals in Hanoi, some of which still function (Ministry of Health 2001:16). Branches of the *Institut Pasteur* were established in Hanoi, Saigon, Nha Trang, and Đà Lạt, serving as important testing grounds for the development of tropical medicine in an imperial vein.[134] In 1902 the Indochina Medical College was founded and served as the training grounds for physicians, pharmacists, nurses, and midwives.

These French medical institutions bestowed the ambiguous, exclusionary institutions of "modernization" alongside the negation and denigration of local traditions, institutions, and people: two sides of *mission civilisatrice.* In the process of establishing their own medical institutions, the French eradicated almost all the Nguyễn dynasty medical institutions and facilities, and transformed them into centers of Western biomedicine (Ministry of Health

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[132] This calculation only compares public hospitals, and does not include military health facilities or the European medical specialists who served the French in private practice.

[133] Monnais argues that the colonial administration concentrated medical services and facilities in urban locations to secure the health of the native labor force, as well as to shore up the health of the French population against tropical infection (2006:41). However, this claim is difficult to take seriously, given the dearth and poor quality of publicly accessible facilities. For example, a mission hospital next to Hanoi's cathedral was founded in 1894 to serve the "sick and destitute native population," housing 460 patients in a facility designed for 150. The overwhelmed hospital was a destination of last resort for Vietnamese families in desperate straits (Vann 1999:366).

[134] Pasteur Institutes were established throughout the French colonial empire to serve as medical research and training institutions. The introduction of Pastorian principles to Indochina via the founding of these institutes was intended to support more effective public health outcomes, but its research energies were mainly concentrated on the development of new vaccines.

2005:6). Colonial governors promoted biomedical education in Indochina to gain political leverage among literate elites, and to act as a wedge against traditional medical practitioners – who were perceived both as competitors to allopathic medicine and as a threat to public health. Instruction took place in French, and Vietnamese students were only allowed to train as *médecins auxiliares* (Monnais-Rousselot 2002a:142).[135]

During the colonial period, biomedical technologies and public health practices, while institutionalized through the establishment of schools of Western medicine, public health campaigns failed to secure improved health for the general population. Further, as the French dismantled institutions of collective landholding and famine insurance, peasants in Tonkin and Annam were increasingly vulnerable to the impact of natural disasters. Twentieth-century crises such as the famine of 1944-5 impacted the populace severely, ultimately contributing to undermining public tolerance for French rule (Nguyen-Marshall 2008). As Ladinsky and Levine conclude, "insufficient health care combined with poor public health practices resulted in very high rates of morbidity and mortality in both adults and children, even when compared to other developing nations" during the colonial period (Ladinsky and Levine 1985:257-8).

By the early twentieth century, the aims of the medical service in Indochina were, according to medical inspector Clavel, "the battle against disease, the physical improvement of the Annamite race, and, at the same time, the economic development of the country" (Bernard 1922, Marcovich 1988). Specific objectives were "to propagate notions of hygiene, incessantly fight against diseases, and lower the appalling mortality caused by ignorance and prejudice" (Trankell and Ovesen 2002:97). However, the ambiance of physical danger, alienation, and contagion also motivated French planners to institutionalize and concretize social and spatial

[135] In French medical schools and hospitals, Vietnamese medical students and doctors – members of the most elite

apartheid into occupied Hanoi, with barriers between classes that could function as *cordons sanitaires* in case of infectious outbreaks (Vann 1999:321). While the gates that once closed off city districts from another during outbreaks are gone, spatial disparities in housing, services, and access to social determinants of health can still be seen in modern-day Hanoi.

Infectious Disease in Indochina and Vietnam, 1930-1945

In the last decades of colonial rule, multiple and intersecting stresses on general social determinants of health in the Vietnamese population – including especially landholding, food security, and economic stability – began to translate into increasingly dramatic negative health outcomes. Despite the difference in the size of the populations, analysis for statistical significance (Malarney 2007:47) finds statistically significant differences in the case fatality rates for typhoid, diphtheria, cholera, and measles; excess mortality[136] from these diseases in the Indochinese population appears in Table 6 below:

Disease	**Excess deaths**
Typhoid	266
Diphtheria	124
Cholera	20,964
Measles	505

Table 6: Excess Mortality in non-European Population, Indochina 1930-1940.

For only three diseases – dysentery, typhus, and polio – Europeans suffered a worse case fatality rate – but these were not statistically significant (Malarney 2007:53). The four diseases listed in Table 6 were both preventable and treatable; their overrepresentation in the Indochinese

indigenous social class – were not permitted to touch or treat white patients until 1932 (Vann 1999:368).

[136] Excess mortality references the number of individuals who died owing to the disparately higher case fatality rate in the population group to which they belong. It is calculated "by multiplying the number of Indochinese reported cases by the European case fatality rate and subtracting the result from the number of reported Indochinese case fatalities for each disease" (Malarney 2007:54).

population supports Malarney's conclusion that structural violence was the primary driver of health disparities during the colonial period.

Demographic analysis of Vietnamese mortality and causality also helps frame the impact of French colonial rule on the Vietnamese population. In the below passage, Hirschman, Preston, and Vu Manh Loi cite a 1936 study by Gourou, which drew on data from colonial missions, to tabulate colonial-era population, disease morbidity and mortality in North Vietnam:

> Relatively little is known about mortality levels in Vietnam during the colonial era, except that they were very high. In his classic work, *The Peasants of the Tonkin Delta* (the Red River Delta in northern Vietnam), originally published in 1936, the French geographer Pierre Gourou reports very high mortality caused by childhood diseases, tetanus, and tuberculosis and observes that anti-tuberculosis drives seemed of little consequence because of chronic malnutrition. For the year 1934, Gourou assembled death rates per thousand population for 46 parishes (…). Across the 46 parishes, he reported crude death rates ranging from a low of 8 per thousand to a high of 51 with a mean of 22.7 and a median of 21. These rates, he noted, were often badly understated because infant deaths before baptism were not recorded. [Hirschman, Preston, and Vu Manh Loi 1995: 785]

Though Gourou did not speculate on the inputs to disease incidence and premature death in the "high noon" of the colonial era, other authors have implicated the poverty of the peasant population, exacerbated by the colonial administration's expropriation of tax revenue, land, labor, and resources (Kolko 1985). Pressed between the demise of institutions that secured collective welfare and the constantly increasing requirement to surrender increasing rates of tax, Vietnamese peasants became increasingly impoverished and vulnerable. Mass expropriation of land reduced communal fields that had functioned as a hedge against poverty and famine under dynastic rule; high rents and high taxes – head tax, *corvée* tax, land tax, rice wine tax, and many others levied by the French – also contributed to the "pervasive misery" (Kolko 1985:15) and immiseration of the peasantry (Ngô Vĩnh Long 1991:15); indeed, "nothing about the colonial

order seemed to infuriate the peasantry more than its taxes" (Scott 1976:91).[137] Corruption, prevalent among officials appointed by the French, also contributed to the misery of the Vietnamese population under colonial rule. Witnessing the toll of *corvée* labor on peasant families in Nghệ An province, where "poor provisioning, shelter, and safety precautions [caused] a high proportion of illness and injuries," the young Hồ Chí Minh (born Nguyễn Sinh Cung in 1890) would ruminate on the fundamental injustices of the colonial administration's division of labor and allocation of wealth (Marr 1980:255).

To compound the impact of the Great Depression on the Vietnamese economy and the local burden of provisioning the French, tens of thousands of Vietnamese soldiers and workers were sent to France throughout the 1930s, removing able-bodied laborers (Thompson 2003:136). By the late 1930s, the stage was set for "a public health breakdown" in Vichy-controlled Indochina. As the balance of power shifted in Asia during World War II, Japan came to occupy Vietnam from 1940 until summer 1945. This meant Vietnamese families became suddenly accountable to "two masters"; prices rose 400 percent while salaries only increased by 20 percent (Thompson 2003:136). The health care system suffered along with everything else. No pharmaceuticals were available for import from Europe, motivating the authorities to sponsor a search for local substitutes; resultingly, local medical traditions began to be revived (Marr 1987:45). However, social conditions in Vietnam in the mid-1940s – a period marked by recurring crop failures, famine, epidemics of cholera, hemorrhagic fever, malaria (Thompson 1939:138), and extreme economic hardship imposed by war and the dwindling capacity of the colonial state – were so severe that infectious disease was rampant even among the most

[137] While land tax, for example, under the Nguyễn dynasty was only some 3-6 percent of a peasant's average yield, the land tax under the French went up to 20 percent of a harvest, forcing small landholders to sell their land in years of poor harvests (Ngô Vĩnh Long 1991:68).

privileged Vietnamese communities:

> As late as 1944, one study found that in many villages up to 90 percent of the inhabitants suffered from tuberculosis, malaria, and trachoma – malaria and trachoma being the most common. Nationwide, the 1944 study estimated that about 5 million of Vietnam's 20 million suffered from malaria and could work at only 50 per cent efficiency. (…) According to the Vietnamese doctor who studied in 1944, 790 out of 908 persons examined in Khuong Ha (a village outside Hanoi) had trachoma, and 316 were partially blind. These results came from a total population of only 1,000 persons and in one of the richest and cleanest villages in Tonkin, one in which all the streets and yards were paved and most of the houses were clean, tall, well ventilated, and built of bricks. [Ngô Vĩnh Long 1991:76]

As Ngô Vĩnh Long points out, any history of anti-colonial politics in Vietnam which fails to recognize the social conditions confronting the peasant population is missing the point. By the end of the colonial period, as the above passage underscores, health and survival had become barely tenable propositions in North Vietnam. In 1944-1945, a series of typhoons combined with the administrative failures and abuses of the French and Japanese[138] to precipitate mass famine (Nguyen-Marshall 2005:237): "Even millet, potatoes, and rice bran were exhausted; potato leaves, banana roots, grasses, and the bark of trees remained" (Scott 1976:2). This disaster claimed the lives of between one and two million out of a population of ten million[139], literally decimating the countryside, inaugurating outbreaks of typhus and cholera, and laying the groundwork for the August Revolution (Thompson 2003:136,139). Plunder by the "Japanese fascists" had also left the country stripped of medical supplies (Truong Xuan Nam 1965:110). One of my interview respondents in Hanoi, an elderly gentleman living in a downtown district with his wife, remembered the cholera outbreak of that period, and associated it directly with the need to eat surrogate foods during famine:

[138] These had included the categorical neglect of any famine prevention and public relief systems during food shortages, and the conversion of paddy to jute and other "war-machine crops," and the occupation forces' appropriation of the already scanty crop in 1943 (Scott 1976:1).

> I remember 1945; the cholera was uncontrolled, terrible. People were hungry, so they ate anything they could catch hold of, contracted cholera, and died. –Trần Xuân Sơn, male, 82 years old, Hoàn Kiếm district, Hàng Gai ward, August 24, 2010.

During this catastrophe, more than 1,580 bodies were abandoned in the streets of Hanoi (Vann 1999:328). Given the high priority that Vietnamese families place on affording their loved ones a dignified burial at a site that can be visited and tended by surviving generations, the mass abandonment of bodies indicates the degree of disorder and upheaval of the period.

The nationalist Việt Minh[140] forces stepped into the political and moral vacuum that remained in the wake of these serial disaters, encouraging the population to ransack rice warehouses and refuse to pay taxes. Moral authority was theirs for the taking: following Japanese surrender in August 1945 and the internment of the Vichy regime, the Việt Minh swept the nation to consolidate power. On September 2nd 1945, Hồ Chí Minh acceded to declare the independence of the Democratic Republic of Vietnam. By 1946, Vietnam was at war with its former colonial ruler; the First Indochina War lasted until 1954.

Health, Nation-Building, and War in the DRV

When the French colonial administration withdrew from Indochina in 1945, they removed the materials they had invested into the colony, leaving "no medical resources or infrastructure, no local drug industry, few doctors, and public health conditions in the countryside demanding a large-scale social mobilization" (Craig 2002:54). The Democratic Republic of Vietnam (DRV) began to develop and manufacture medicine, including antibiotics

[139] Hirschman, Preston, and Vu Manh Loi indicate the famine's death toll ranged from 400,000 to 2 million deaths in the Red River Delta during the winter of 1944-45 (1993:783); Nguyen-Marshall cites the latter figure (Van Nguyen-Marshall 2005:237).
[140] An anticolonial coalition formed in the early 1940s.

and vaccines. Vietnamese surgeons, lacking cotton and bandages, used blotting paper and dried banana leaves in field surgery, and the health sector in general showed enormous resourcefulness, producing: "scalpels, scissors, hemostatic pincers with steel retrieved from railway tracks. Stainless steel hairpins were made into hypodermic needles, stays from discarded umbrellas were filed into surgical needles" (Do Huu The 1970:104).

Training health personnel was another critical early priority. Physician Hoang Dinh Cau began an essay on the health sector with statistics on the dearth of health care workers in the newly postcolonial DRV:

> After eighty years of colonial rule, one could find in the whole of Vietnam (north and south) in 1945:
>
> 51 physicians
> 152 assistant physicians (the so-called 'Indochinese physicians')[141]
> 21 pharmacists
> 22 assistant (so-called 'Indochinese') pharmacists
> 1,227 nurses
> 215 midwives [1965:37]

These are appallingly low figures: the population of Vietnam in 1945 was about 23 million (Thompson 2003:122), meaning that the doctor-to-patient ratio (for Western-trained doctors) was approximately 1:450,980[142] and the nurse-to-patient ratio, 1:18,750.[143] Given the enormous burden of ill health in the Vietnamese population – documented carefully in public health statistics – and the limited resources of the newly independent state, the cost-effective, grassroots health sector model was practical as well as keeping with socialist ideology. The Vietnamese health sector was constructed as a geographically dispersed health system, prioritizing preventive health care, and relying on minimally trained providers to provide primary health care and

[141] David Marr, citing Phan Huy Đán, cites a figure of 240 auxiliary doctors who graduated from the Hanoi School by 1930 – or one per 67,000 people (1987:43).
[142] These figures are debated. Malhotra cites a figure of 352,949 population per doctor in 1945 (1999:14).

educate about preventive health at the level of the commune.

When anti-colonial war broke out in 1946, these tasks continued to be carried out, but with large portions of the DRV's medical infrastructure moved into the jungle: medical personnel, pharmaceutical production, and all training and research institutions – including the College of Medicine and Pharmacy and the Micro-Biology Institute of the Health Ministry (McMichael 1976:18-19). Jungle hospitals were established to treat military and civilian casualties. The DRV's nascent health apparatus prioritized the fight to eradicate cholera and smallpox, developing vaccines in the evacuated microbiology institutes. Results were reported as exceptionally successful: "In the free zones, smallpox and cholera were almost entirely eliminated, while in areas occupied by the French expeditionary corps these diseases existed in an endemic state, with epidemics breaking out periodically and taking heavy tolls" (McMichael 1976:138).[144]

The Democratic Republic of Vietnam's accomplishments in health were in some ways remarkable: as Jonathan London notes, "Though threadbare in quality and scope and incomplete in geographical coverage, the development of this state-financed health system contributed to historic reductions in mortality and morality in the civilian population, remarkable accomplishments given that they occurred in wartime and in the context of economic scarcity" (London 2008:116-117). However, war with the French entailed enormous loss of life. In 1946, Hồ Chí Minh warned the French: "You can kill ten of my men for every one of yours, yet even at those odds, you will lose and I will win." After nine years of war, although "the environment was not conducive to demographic data collection (or most other normal administrative activities

[143] Ngô Vinh Long cites a more optimistic, but still thoroughly inadequate, doctor-to-patient ratio of 1:157,000 and a nurse-to-patient ratio of 1:15,000 for 1942 (1991:76).

of modern states" (Hirschman 1994:393), estimates indicate that half a million Vietnamese civilians and soldiers had been killed and one million wounded (Hirschman, Preston, and Vu Manh Loi 1995:783); the maximum estimated French death toll was 92,000 (Lomperis 1996:96).

Despite inflicting over five times as much mortality as they received, the French did lose. In a provisional settlement, the 1954 Geneva Conference partitioned the country at the 17th parallel, with the northern portion established as the Democratic Republic of Vietnam under Hồ Chí Minh; the southern portion was designated the Republic of Vietnam under the rule of emperor Bảo Đại, subsequently the US-backed Ngô Đình Diệm. The DRV supported the guarantee that a general election would be held by 1956 to determine whether the border would remain or be disestablished, but neither the United States nor South Vietnam accepted this proviso, setting the stage for future conflict.

"A Vast Pyramid"[145]: Public Health in the Democratic Republic of Vietnam (1954-1975)

While some writers' assessments of Vietnam's public health were celebratory verging on triumphalist, other perspectives noted – empirically as well as rhetorically – that anti-colonial war had inflicted heavy damage on the already enervated Vietnamese population. Visiting a rural village in the Democratic Republic of Vietnam after the conclusion of the First Indochina War, journalist Vu Can found the population suffering the effects of poor harvests, droughts, floods, and epidemics of dysentery. Polio, malaria, trachoma, tuberculosis, and leprosy had burned through the countryside (McMichael 1976:151).

> In the former guerrilla zone, whole villages had been razed to the ground, bomb and shell craters were seen everywhere – each inhabitant having received on an

[144] "Cholera, however, was not a problem for the French expeditionary forces during the 9 years of the [First] Indochina War. A total of only 110 cases, leading to 55 deaths, was seen (MI-OTSG, p. 5)" (Barrett 1982:17-18).
[145]Pham Ngoc Thach 1965:9.

> average three bombs and 203 shells from the French Expeditionary Corps; abandoned dogs and cats were roaming over the waste land (…) We met haggard-looking peasants walking silently on the road like shadows. It was difficult for my European colleagues to make out which were men and which women, as all had only tattered brown cotton clothes to cover their emaciated bodies. Anxious-looking children looked shrunken like old people. Not a single buffalo or ox was to be seen. (…) For want of draught animals, men were drawing ploughs guided by their wives. [Vu Can 1976:115]

The public health situation in Vietnam during the interwar period was equally grave, as Minister of Health Pham Ngoc Thach later described it:

> Millions of people suffered from malaria and trachoma, hundreds of thousands from tuberculosis[146], venereal diseases and leprosy, while practically the entire population was infested with intestinal parasites. And intestinal infections of all kinds were rampant: diarrhea, dysentery, enteritis, which attacked adults and children indifferently. And then each delivery and childbirth provoked dangerous puerperal and umbilical infections. Pneumonia, measles, whooping-cough, diphtheria, typhoid fever, were most prevalent. And in the following years there were serious epidemics of influenza and poliomyelitis. [*Vietnamese Studies* 1965:4]

Recognizing these threats to public health as checks on the new nation's potential, the DRV established a centrally directed, state-financed health care system to "liquidate as rapidly as possible the aftermath of colonialism and war," as Minister of Health Nguyen Van Huong later wrote (1970:9). A pyramid-shaped national health system was developed, with agencies for health care delivery and management, planning, administration, training, and disease surveillance, mapped onto institutions at every level of government: national (*nhà nước*), provincial (*tỉnh*), urban or rural district (*quận/huyện*) and urban ward or rural commune (*phường/xã*). The health care system was built on commune-level primary health care delivery; preventive medicine was the "principal task of Vietnamese medicine" (Nguyen 1971:9). During

[146] A 1930 study by the *Administration* to determine tuberculosis morbidity in sub-populations of Hanoi reported astonishingly high infection rates: teachers and office workers yielded a 70.85% rate of positive reaction; 56.80% of "men and women of the people (over age 20)" and 80.13% of prisoners were infected. The lowest rate of any single subgroup was students aged 10-20, 21.08% of whom tested positive for tuberculosis (Vann 1999:364).

the interwar period (1954-1965), the DRV extended the health system to a large percentage of rural communes and began implementing a national program of universal primary health care provision, with emphasis on the improvement of sanitation and the extension of vaccination campaigns in rural areas (London 2008:16-7).

Preventive health and basic health services were available at commune health centers (*trạm y tế*) and district ward level health centers in urban areas (Hoang 1965, Bryant 1998); curative services were delivered through state hospitals administered at the district, provincial, and central-government levels. Commune health stations were the most important institution in the projects of establishing a foundation of preventive health care for the rural population, prioritizing sanitation and vaccination campaigns in rural areas (MOH 2008) and providing free health consultations, medicine, and preventive health care advice and education to all citizens. Although a commune health station's staff did not always include a doctor, complex cases could be transferred to higher levels of care.

Health cadres (*cán bộ y tế*) at CHCs worked in close contact with communities, leading community mobilization and participation in health campaigns (Malhotra 1999:13, Ladinsky et al. 2000). Health education was carried out via campaigns like the "three cleans" (*ba sạch*: clean food, water, and living conditions) and the "three exterminations" (*ba diệt*: kill rats, flies, and mosquitoes), which provided simple principles for maintaining health. Easily recited health messages were an outgrowth of the tendency for revolutionary communications to appropriate popular oral forms – "poems, songs, stories, and aphorisms" – for the mostly illiterate peasant population (Marr 1981:187).

The national health sector achieved significant reductions in morbidity and mortality, even during wartime and in conditions of severe economic privation and limited resources. In the

interwar period, the DRV made impressive progress in controlling vaccine-preventable diseases; cholera and smallpox were eradicated by 1957-1958. Infantile polio was eliminated by 1961 (Nguyen Van Huong 1970:11), and important successes were also recorded in the reduction of malaria in the early 1960s. North Vietnam's program of preventive medicine included education, the improvement of hygienic and sanitary conditions, the extension of primary health care services to the grassroots level, and the implementation of mass vaccination.

The achievements of the health sector in the DRV were lauded by the international community, and often referenced in the 1980s as an example of the potential of primary health care (PHC)[147] to improve public health outcomes in a poor country. The commune health system was the building block of Vietnam's national health care system. Prior to market reform in the mid-1980s, the population in unified Vietnam was served by nearly 10,000 commune health stations. Their operation was supported by allocations from the state for material and supplies, while local agricultural cooperatives paid the salaries of health cadres (Gabriele 2006:262). Though "threadbare in quality and scope and incomplete in geographical coverage," (London 2008:117) commune health stations were "able to implement well organized public health programs" (Gabriele 2006:262). Despite gaps in the coverage of commune health stations, health economist Sophie Witter wrote that the institution's overall achievement was great, and

[147] According to the Alma Ata Declaration (1978), the founding document in the movement for primary health care:

> Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process. [Pan American Health Organization n.d.]

"reflected a proper emphasis on preventive activities, community involvement and combining modern with traditional techniques" (Witter 1996:160).

Medicine and Health during the Second Indochina War (1964-1975)

Following the partition of Vietnam, the question of reunification impelled armed civil conflict between the Democratic Republic of Vietnam, backed by the Soviet Union and China, and the Republic of Vietnam, backed by the United States. The absence of a formal declaration of war challenges the precise periodization of the Second Indochina War, which was prolonged and devastating regardless of how its duration is reckoned. If it is said to begin with US involvement in 1964, the "Vietnam War" claimed between 3 and 5.3 million civilian and combatant lives[148] in North and South Vietnam– between 7.7 and fourteen percent of the population (Allukian and Atwood 1997:215, 316). War refugees, people mentally and physically disabled by war injuries, orphans, or the parents of dead children numbered another 7 million (Allukian and Atwood 1997:215).

Bombing, despite the uneven distribution of its worst effects, substantially affected the infrastructure of North Vietnam. All 29 provincial capitals, all five industrial centers, and 2,700 of 4,000 rural villages were bombarded – as well as uncountable railways, highways, and dikes

[148] This figure is at the high end of the wide range of estimates for Vietnamese civilian and military casualties that resulted from war. "[T]he available literature provides a very weak basis for an assessment of Vietnamese casualties during the American war. The lowest estimate is 1,234,000 Vietnamese military and civilian war deaths from 1965 to 1974 (Lewy 1978: 450-453). (…) Lewy's figure is only half the estimate of 2,358,000 Vietnamese war deaths (1.2 million civilian and 1.158 million military) from 1960 to 1975 cited by Robert McNamara in a survey of deaths caused by wars and conflicts around the world since the end of World War II (McNamara 1991:111). In turn, McNamara's estimates are considerably less than the number of Vietnamese war deaths cited in a recent report from the Vietnamese government. In April 1995, the Ministry of Labor, War Invalids, and Social Affairs released an estimate of 1.1 million communist military deaths and almost 2 million civilian deaths due to war-related causes from 1954 to 1975 (Associated Press 1995). Unfortunately, lacking access to the source data and independent records, a critical evaluation of these estimates of Vietnamese war deaths is not feasible" (Hirschman, Preston, and Vu Manh Loi 1995:791). Hirschman et al. extrapolated a figure of 1 million war deaths from mortality rates, based on analysis of life history surveys.

(Allukian and Atwood 1997:215-6).[149] By the end of the war, 9,000 of 15,000 rural villages in North Vietnam were destroyed (Allukian and Atwood 2007:316). In December 1974, US bombs struck Bạch Mai hospital during Nixon's Operation Linebacker II; in previous years, scores of health facilities at all levels had been bombed (Nguyen Khac Vien 1972:64-65).[150]

Public Health in Wartime North Vietnam

During the American War, the North Vietnamese health system continued to adapt and implement health measures developed in the war against the French. Despite the infrastructural setbacks and mass casualties of devastating wars, Vietnam's national health system extended to more of the population with increasingly comprehensive services. As a 1970 account of the Vietnamese pharmaceutical industry even claimed: "US aggression, far from hampering its development, stimulated it" (Do Huu The 1970:102). By the beginning of the Second Indochina War, the health care system was extended to almost the entire population:

> By 1965 and 1966, all villages in the plain and 90 per cent of the villages in the mountainous regions had set up their own infirmaries. 80 per cent of these infirmaries have assistant doctors. Each village has on an average 20 nurses and midwives and often a physician practicing traditional medicine. [Pham Ngoc Thach 1967:25]

Trends in population health indicators demonstrated the successes of Vietnam's initiatives in primary health care. The infant mortality rate was reduced from 300-400 per thousand during

[149] Over ten years of war, some one million tons of bombs were dropped on North Vietnam and four million tons on the South (Allen and Pilger 2008:46). From 1965 to 1968, Lyndon B. Johnson's "Operation Rolling Thunder" devastated north Vietnam, dropping over 643,000 tons of bombs (Tanaka and Young 2010:164). From mid-December 1972 to mid-January 1973, Nixon's "Operation Linebacker II" flew 1,970 tactical sorties and 970 B-52 sorties, dropping approximately 53,085 tons of ordnance on targets in the North (U.S. Congress 1973:4). By war's end, 15 to 29 million bomb craters scarred Vietnam – a country just slightly larger than Norway.

[150] Writing at the beginning of the war, Viet Chung noted that more than 100 health establishments had been attacked, and some on multiple occasions: "Almost all the big provincial hospitals of the D.R.V. have been bombarded, some up to 11 times, such as that of Quang Binh, or even 17 times, such as that of Ha Tinh" (Viet Chung 1967:58).

the colonial period (Ladinsky 1985:258) to 26 per thousand in 1968[151] (Nguyen Van Huong 1970:12). Life expectancy was raised from 32 in 1936 (McMichael 1976:70) to 49 in 1970 (UN in Vietnam 2010). The maternal mortality rate was lowered from the colonial-era rate of 20 per thousand deliveries to 0.8 per thousand in 1968 (Nguyen Van Huong 1970:12); infant mortality was reduced from 400 per thousand live births in 1945 to 33.7 in 1968 (McMichael 1976:218).

Public health initiatives in the DRV were effectively militarized, functioning as a dispersed network of health care provision, administration, and logistical support to treat soldiers as well as civilians. A 1965 statement by Phạm Ngọc Thạch reflected this ethos: "The village sanitary cadre is like the local partisan who in the beginning defended his village with a lance or a bamboo pike then little by little learnt to handle a rifle, to attack a patrol, then to capture small military posts" (Pham Ngoc Thach 1965:9). Medical teams established camouflaged surgerical theaters and pharmaceutical manufactories in the jungle (Vu Can 1972:96), synthesized drugs from locally available materials, grew their own crops and therapeutic herbs, and institutionalized personal sacrifice. Village health stations were converted to provide field medicine for injured military personnel as well as wounded civilians.

Hygiene and preventive medical initiatives at the commune level continued during the war, and Minister of Health Nguyen Van Huong wrote in 1971 that "We have produced all the necessary vaccines and carried out preventive intradermic vaccination for the entire population. During those four years of war despite the existence of epidemics – cholera, plague – in several neighbouring countries, North Viet Nam was wholly unaffected" (Nguyen Van Huong 1970:18). One foreign delegate from a Marxist reading group noted the ideological significance of disease eradication for politically mobilized Vietnamese during the war:

[151] McMichael cites an even lower general mortality rate of 7.6 per thousand in 1967-1968 (1976:145).

> Vietnamese sentiment seemed profoundly nationalist and confident to the American visitors. (…) For himself, the student told Myerson, life in Vietnam was marked by the fact of war, but it was much more than that, he said: hunger was a thing of the past, he hoped; they were making great strides against cholera and malaria; and through it all he hoped for peace and independence (Myerson 1970, 139). [Hershberger 1998:24]

As literature of the period conveys, the ethos of the war period valorized sacrifice in the interest of the nation, resourcefulness, and collective response to threats to health. Material shortages required health workers to develop innovative new materials and techniques. Fragments from downed U.S. planes were converted into medical instruments and the People's Army also initiated pharmaceutical production "with a handicraft character" (Do Huu The 1970:103); since the late 1940s, North Vietnamese chemists and botanists had synthesized materials such as ether, chloroform, glass, plaster, and chlorophyll, as well as substitute quinine, camphor, and eucalyptus oils from scratch (Do Huu The 1970:104); the first scissors and surgical pincers were said to be produced from the "rails which our people had blown up to cut off the communication lines of the French aggressors" (Truong Xuan Nam 1965:111). Vaccines were produced by the Microbiology Institute, based in the jungle: anti-rabies, anti-smallpox, and anti-cholera, and anti-typhus (Do Huu The 1970:105). When necessary, medical cadres donated their own blood to patients undergoing surgery (Vu Can 1972:88) and shot at planes during air raids (Do Huu The 1970:112).

Especially during war, but during peacetime too, medical personnel in the Democratic Republic of Vietnam occupied a privileged space in state representations of public workers, not only for their efficacy and resourcefulness under conditions of extraordinary duress, but for their bravery, patriotism, and compassion for their patients. In the crushingly poor postwar period, public esteem for medical professionals diminished, but during the revolution and anticolonial wars, the state represented medical personnel in the DRV as political and military heroes. The

opening lines of the diary of a young female combat physician[152] exemplify the valorized ethos of sacrifice expected of Vietnamese doctors towards their patients during wartime:

> Operated on one case of appendicitis with inadequate anesthesia. I had only a few meager vials of Novocain to give the soldier, but he never groaned once during the entire procedure. He even smiled to encourage me. Seeing that forced smile on lips withered by exhaustion, I empathized with him immensely. [Đặng Thùy Trâm 1968{2007}:4]

Public Health in Wartime South Vietnam

The partition of North and South Vietnam and the separate development of political, economic, and health care systems created disparities in quality of life indicators that were evident even before the Second Indochina War. Prior to war, life expectancy in South Vietnam was estimated at 35 years – barely above life expectancies recorded during the colonial period (Baird and Boynton 1964:385). In 1964, South Vietnam had some 1.5 hospital beds per 1,000 people, far below the World Health Organization's recommendation that developing countries maintain 5 beds per 1,000 (Baird and Boynton 1964:389). In 1967, professional medical reports showed that no more than 400 physicians served the South Vietnamese population of 17 million – a physician-to-population ratio of 1:42,500 (Poffenbarger 1971:630).[153] Hundreds of Western-trained doctors were tasked exclusively to military activities, such that "civilian medical programs in South Vietnam were inadequate to meet even the peacetime needs of the country" (Allukian and Atwood 2007:318).

Prior to US intervention, the region's "medical practice depended largely on French

[152] Martyred in 1970 at the age of 25, the Hanoian combat physician Đặng Thúy Trâm became a national hero in Vietnam following the rediscovery of her wartime diary in 2005.

[153] Allukian and Atwood cite an "abysmal" South Vietnamese physician-to-population ratio of 1:100,000 (or 150 to 15 million) (2007:318); Baird and Boynton estimate a better ratio of one physician to every 20,000-25,000 people – but even this rather optimistic measurement, they concede, represented "a level of development about 40 percent of that of Pakistan and about 4 percent of that of Japan." (1964:390)

medical and paramedical talent, and the sudden exodus of many of these workers left serious gaps in the functioning of many institutions and programs" (Baird and Boynton 1964:386). Public health dysfunction was intense from the very beginning of the war: in 1965, William Gaud, director of USAID, stated to a presidential subcommittee that the situation was barely able to be resolved by American aid: " [T]he health problem is so enormous that everything that we have done to date is really not much more than a drop in the bucket….In terms of providing adequate facilities, you might…say we have scarcely scratched the surface" (Carter 2008:210). The health system's underdevelopment was compounded by the priorities of the regime. Allukian and Atwood state that the South Vietnamese government spent 53 percent of its budget on defense and 1 percent on public health.[154] Of United States aid to South Vietnam, 0.5 percent was spent on public health, versus an expenditure of 76 percent for the military (2007:318-319).

Given this threadbare health system and the almost universally poor state of public health, the physical impact of war was all the more devastating. As in North Vietnam, health-related war legacies for civilians and combatants in South Vietnam were extensive and devastating; as Diane Fox notes, "Bridges, roads, rail lines, hospitals, and schools were bombed; numerous cities and hundreds of villages were completely razed; millions of internal refugees were created, with many coerced into camps known by such names as 'strategic hamlets'" (Fox 2005:108). Chemical spraying of some 21 million gallons of Agent Orange and other dioxin-based defoliants covered approximately five million acres in southern and central Vietnam[155]

[154] This rate of state expenditure on health was, according to Dr. John Knowles, who conducted a study of the South Vietnamese health services in 1967, "less than any country – with or without war" (Carter 2008:209).

[155] It is uniquely challenging to measure with any accuracy the number of people or area of land exposed to dioxin-containing defoliants – the former because millions of people were displaced during war and were not included in census data that only accounted for permanent residents (Fox 2003:78). Controversy over the scope and impact of chemical spraying during wartime continues to the present day.

(Fox 2003:75-76); between 1961 and 1971, an estimated one million people[156] were "heavily exposed" to chemical compounds containing dioxin that the US Army used to deny food crops and cover to the National Liberation Front (also called the Việt Cộng) and the villagers who supported them.

Given the radically limited capacity of the health care system in the South and the scope of the refugee crisis, public health indicators in South Vietnam deteriorated precipitously, and ultimately the health system collapsed. Hospitals were crowded with patients waiting for surgeries – which were sometimes delayed for years – while necessities like soap were frequently unavailable (Allukian and Atwood 2007:318). The region recorded a "rising incidence of TB, intestinal parasite infestations, leprosy, and malaria as major causes of morbidity, along with marked increases in the incidence of cholera[157], plague, and human rabies" (2007:318). Smallpox was endemic, with a mortality rate rising to 92 percent in some areas (McMichael 1976:152). Tuberculosis affected 10 percent of the civilian population (Poffenbarger 1971). In the mid-1960s, a Cuban doctor serving in a hamlet clinic in South Vietnam stated: "I have seen things I would not believe" (Gellhorn 1994:235), and a Congressional investigation in 1966 concluded that in South Vietnam, "Almost every disease known to man is present" (Carter 2008:209). Between the failing network of civilian hospitals, the utter scarcity of doctors or any other health care personnel, and the limited offerings of the US military, during the Second Indochina War, "There existed no health care system as such for the whole of southern Vietnam" (Carter 2008:208).

[156] The qualitative and quantitative impact of dioxin on individual and population health continues to be debated to this day, the United States now lists ten diseases "as having 'sufficient' or 'limited' evidence of a link to exposure to Agent Orange"; Vietnamese research has demonstrated that other health conditions, including birth defects in the second generation, are associated with exposure to dioxin (Fox 2003:81).

[157] As I discuss in Chapter 3, cholera represented a significant source of morbidity and mortality in South Vietnam

In 1975, the U.S. Senate Subcommittee on Refugees estimated that South Vietnam's population had suffered a cumulative total of 430,000 civilian deaths and 1,005,000 wounded; there had been 553,279 hospital admissions officially reported during 1965-1974. The same subcommittee estimated that 11,683,900 residents had been internally displaced since 1964-5: more than half the entire population (U.S. Senate Subcommittee on Refugees and Escapees 1975:7), and that war had affected virtually the entire population. War, US withdrawal ("Vietnamization"), and victory by the North profoundly impacted the population in the South and Central provinces. By 1975, the region's survivors included 800,000 war orphans, 400,000 disabled individuals, 600,000 commercial sex workers, 500,000 drug addicts, and 3,000,000 unemployed (Allukian and Atwood 1997:218). From the fall of Saigon in 1975 to 1995, the United Nations High Commissioner for Refugees estimates some 796,310 boat people fled reunified Vietnam (UNHCR 2000:89).

Public Health in Postwar Vietnam (1975-1986)

While appraisals of the health care system in reunified Vietnam and of the general social welfare of the Vietnamese population during the postwar period vary, most evaluations of Vietnam's accomplishments in public health during the period are favorable.[158] Often they stress

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during wartime, while North Vietnam remained virtually free of the disease, owing to the success of the health system and the cholera eradication campaigns of the Democratic Republic of Vietnam.

[158] The dearth of independently collected data on the health sector for the period is the partial artifact of the Sino-US embargo (1975-1994), which limited outside access to Vietnam and prevented independent documentation of social conditions after reunification. During the period immediately following the war, virtually all data on Vietnam's domestic situation were generated by the state; where and how state statistics differ from lived experience is unknown. Given the state's limited capacity to collect data, some authors express doubts about health and demographic statistics compiled by the DRV; others, as below, argue that the documentation of intensive health planning and development increasee the likelihood that these data sets are reliable:

> North Vietnam could spare only limited resources for health care but nevertheless achieved rapid mortality decline. The decline occurred because scarce resources were employed effectively through a primary health care system that emphasized community involvement, simple technologies, and selective use of traditional medicine, and that was supported by complementary

the disparity between the country's relatively high population health indicators and its standing as one of the poorest developing countries in the world (Chen and Hiebert 1994:2). British scientists who participated in a wartime delegation to Hanoi commented: "The health statistics of North Vietnam, if related to those of the surrounding countries, stand out like a bright light in an epidemiologically dark world" (Rose and Rose 1971:135).[159] Even the World Bank praised Vietnam's improvement of social welfare indices during the postwar period (Allukian and Atwood 2008:325), and the first WHO Representative in Hanoi stated "the whole of Vietnam can be considered as one well-designed [Primary Health Care] project" (Allman 1993:324). While Hirschman et al. question how mortality reduction could have been improved so radically in a "very poor country that lacks modern medical technology and medicines" (1995:787), other authors point to the role of diverse inputs improving the health of the population – including collective landholding, the improvement of sanitation and education levels, mass mobilizations for health (such as vaccination initiatives), the state-sponsored transfer of food to deficit regions, and the empowerment of women (Bryant 1998:247-248, Malhotra 1999:13). Bryant also attributes achievements in mortality reduction after 1954 to the effective employment of scarce resources through

> … a primary health care system that emphasized community involvement, simple technologies, and selective use of traditional medicine (…) supported by complementary social programs. [Bryant 1998:246]

> social programs. This is the conclusion of previous research, and also of the 1978 Alma Ata Conference on Primary Health Care, which pointed to the North Vietnamese health system as a model for other poor countries to emulate (…). There is ample evidence supporting this interpretation. [Bryant 1998:246]

[159] The end of the war did not see the end of anti-communist sentiment, and accordingly, some literature published on Vietnam during the 1980s appropriated health and social welfare as an idiom for moral complaint and focusing on themes whose implications were particularly damaging to the image of the Government of Vietnam. These included the state's interment of collaborators in re-education camps; economic shortfalls and material scarcities; the persecution of religious minorities, and other political abuses that followed reunification.

These achievements were seconded by an American official at the CDC who had many years of professional experience in Vietnam; he asserted that "from 1975 to 2000, Vietnam had twenty-five years of remarkable success in health promotion – traditional vertical assessments, feeding people, maternal and child health, immunization, controlling cholera and malaria and other infectious diseases…Vietnam's health indicators were excellent, and with minimal investment. It was an impressive success" (Michael Iademarco, personal communication, October 2010).

The commitment of the health care system of Socialist Republic of Vietnam to universal provision in the postwar period established health care not only as a bulwark against the public health effects of poverty, but as a moral right of every citizen. The right to health care and education were legally guaranteed by the Vietnamese constitution, provided to all citizens free of charge at the lowest administrative levels. Coverage by the preventive health sector was very broad, with 100 percent provision of health stations to urban areas and 75 percent provision to rural communes (Witter 1996:160); the national rate of commune-level accessibility in the late 1990s was even higher: by the late 1990s, fewer than 7 percent of Vietnam's 9929 communes had no commune health station (Malhotra 1999:13). One study showed that most households in rural districts surveyed lived within a 14-minute walk of a health worker (Ensor and San 1996). The demise of this model in the post-reform period has entailed the slow attrition of health outcomes, especially among poorer and more marginalized communities, and the rise of class-based health disparities.

Socialist Medicine's "Model Doctor"

If the poor health outcomes of prior periods, such as the feudal period and the colonial

period, were often cited to underscore the abusiveness of those polities, health and the health care system were deployed as particularly potent symbols of the new social order in the DRV and reunified Vietnam. Health and sanitation on a mass scale were articulated as the evidence of a properly functioning social order, in contrast to the ill health and poor hygiene suffered under dynastic rule and French colonialism. For example, arguing for a national and "systematic fight against disease," with priority afforded to preventive health care, Vice-Minister of Health Nguyen Van Tin compared socialist medicine to the health situation of the United States in 1970, characterizing the latter as marked by inegalitarian distribution of resources, the ill health of marginalized populations, and the evils of capitalist medicine (Nguyen Van Tin 1970:21-22).

Beyond the commitment of the socialist health care system to distributive justice, the affective, interpersonal valences of health care delivery were also strongly stressed during the socialist period. The social relations called up and enacted in the delivery of mass health care served as a primary site for the articulation, reproduction, and transmission of the socialist values of the party and state. There, cadres intervened into the physical bodies and social lifeworlds of the peasantry, providing care, education, and material resources which were meant to inspire and transform public expectations for civic life and their membership in the new revolutionary society. To this end, the moral and ideological preparation of health care workers was emphasized alongside their acquisition of political theory and technical skills. The mentality of the ideal "new" health cadre, marked by enthusiasm, dedication, patriotic morale, and a readiness to serve the people, was understood as symbolic of a radical break from the social relations of the past (McMichael 1976:165). Though in retrospect the Vietnamese Communist Party's language on the accomplishments and dedication of the health cadres appears programmatic, Bryant suggests that the social accountability that was built into the working arrangements of health

cadres may have actually entailed the attitude of dedication which the Vietnamese Communist Party celebrated (Bryant 1998:248-9).

The prioritization of health care delivery on a mass scale in the Democratic Republic of Vietnam, and also the emphasis on the humanistic disposition of health workers, is partially an artifact of the interest that Hồ Chí Minh took in development of health cadres (Thompson 2003:138). He explicitly prioritized the health system's egalitarian disposition and the proper conduct of health cadres. Hồ's early message to the national conference of health cadres included the following frequently cited recommendations:

> Love the patient. The patient trusts their life to you. The government trusts all of you to work to cure illness and care for the health of the comrade[s]. This is a very honorable duty. Because of this, the cadre must love and care for the patient as your own brothers and sisters, and see their pain and sorrow as your own pain and sorrow. "The conscience of a doctor has to be a model"; this saying is very correct. [Hồ Chí Minh 1955]

Conclusion

Medicine has long been bound up with ideas of nation and nationalism in Vietnam, as the historic designation of Chinese medicine as "Northern medicine" and Vietnamese medicine as "Southern medicine" suggests. This has not resulted in a xenophobic national medicine, but a polythetic one: the recourse to multiple medical materials or curing traditions is also a historically established practice, and Vietnamese patterns of medical resort, at the scale of both nation and household, are distinguished by their heterogeneity. The history of medicine in Vietnam is tightly articulated with the history of colonialism, with medical inheritances from China and France representing both unpleasant reminders of domination and benefits to be appropriated and assimilated into an indigenous healing repertoire.

Medicine played an important moral as well as technical role in Vietnam's anticolonial

struggle and in the establishment of socialism, with medical workers – primarily biomedically trained – represented as exemplifying the ideals of sacrifice, ingenuity, and collective spirit; the eradication of disease was portrayed as symbolizing the elimination of the vestiges of colonial oppression. Representations of socialist medicine and medical practice deployed them as symbols of the state's benevolence towards the body politic. Continuing to uphold a strategic polypharmacy, the country's public health policy prioritized the development of traditional medicine, using materials and knowledge which were readily available, cost-effective, and ideologically aligned with a nationalist ethos.

The elimination of infectious disease via biomedically based public health measures was a particular priority of the newly established Democratic Republic of Vietnam, given the colonial period's legacy of epidemics. Cholera had ranked among the most epidemiologically significant diseases, and its control was therefore a national priority during the first years of independence from the French. Cholera control campaigns therefore stressed mass vaccination and personal and community hygiene and sanitation. Given the ongoing resource shortages of the post-independence period, expensive infrastructural modifications were less highly prioritized.

While the prioritization of primary health care, consisting of education, behavior modification, and low-level provision of preventive health care, was an absolutely realistic decision for a resource-poor country, it did not represent the guarantee of continued positive public health outcomes in the future. The implementation of such a model requires continuous investment into simple, low-tech inputs, including especially health education. As I will describe in the following chapter, the economic arrangements and the political will that formerly supported the provision of such a health system has been eroded sharply since the implementation of market reform, and the former saturation of primary health care has dwindled

in an era of neoliberalization. At the same time, the infrastructural upgrades that would have mechanically prevented the outbreak of water-borne diseases have yet to be put in place, despite the improvement of Vietnam's aggregate economic health. As I will describe in Chapter Five, this situation – of rapid economic development alongside the depreciation of socialized medicine – has contributed to a situation of complex, broadly diffused risks to public health.

Chapter 5

Poverty, Environment, and Health: Agnatology and Unpopular Theories

Dr. Hiền, a scientist in her mid-fifties, invites me down to her lab at a national scientific research institute. It's a grand building with long classical corridors. A sticker on the glass and aluminum door of her laboratory states "Biohazard 2," but the ambiance is more domestic than biosecure, with young lab assistants buzzing around and my friend inviting me to join her for tea at a corner seating area. She wears laboratory whites and plastic slippers and looks totally at home with a big row of bottles of formaldehyde behind her.

As usual, the meeting is part business and part pleasure: we share a plastic cup of yogurt over sweet black rice and have a chat, talking about family and friends and work and, inevitably, politics, science, and infectious disease. While we talk, the women working in the room sometimes step around us on their way to an anteroom where big pieces of unrecognizable equipment are kept – or on the way out to the balcony, where tea-towels and freshly washed cups are placed on a rack to dry. Cold air and traffic noises seep in from street level below. The lab is just a plain room equipped with computer monitors and an assortment of lab equipment and machines. The paint is dingy and the fluorescent lights are dull. My friend's good spirits infuse the room with a feeling of optimistic struggle.

Whereas most of my meetings with "official" respondents contain a measure of awkwardness, even hostility, I always enjoy sitting in Dr. Hiền's lab with its low, comfortable bamboo chairs and unhurried atmosphere. She chats to me amiably about the state of science in Vietnam, her husband, and my own research questions. Sometimes, in a didactic mood, she teaches me Vietnamese proverbs to illustrate a point from our conversation. Unlike many of the

men I've met in government offices across the city – who typically give me a polite twenty minutes before showing me to the door – she has asked me back again and again.

Today we're talking about corruption, a problem she perceives throughout her institute and beyond. "When you die, you are ash," she notes, clearly in a philosophical mood. "When you realize this, you are free, you don't go chasing after money, you just need enough to live, and that is it." I think of her as a scientist of the older guard, skeptical of post-reform Vietnam, whose conjoint market economy and Communist state she calls an "evil hybrid." She goes on to tell me, with a certain bitterness, that her institute is a shell of its former self, increasingly filled with "dead labs"; the leadership is greedy and the director surrounds himself with "kneeling people." It is impossible for anyone good to do any work here, she says. She contemplates what will happen to her lab after she retires.

She is not a cholera expert, but she followed the outbreaks closely and relates details of their mismanagement to me with a certain enthusiasm. She says "They tried to hide it, but they were very careless. The data are everywhere, and people shrivel up like a snail if you ask for them." She goes on: "So of course, the shrimp paste and dog meat, you know, of course there is nothing good happening in health here now. No wonder that in Vietnam now you have infections spreading everywhere, food-borne and water-borne infections, bacterial and viral infections, antibiotic resistance, everything. Nothing good is going to happen in science." In her account, "dog meat and shrimp paste" symbolized not the dirt of the city or its inhabitants' eating and sanitary practices: it represented the hollowing out of the nation's commitment to hygiene and sanitation; to epidemiology and public health.

Regarding the same subject, my friend's colleague Dr. Thảo, an expert on infectious enteric disease, walks down the hall with me to his office to loan me a student's PhD thesis. I

ask him about the reports that are supposed to be coming available on the outbreaks of cholera in Hanoi and the surrounding provinces in the past three years, which a number of other scientists have alluded to in their emails putting off requests for more specific information. In answer to my question, Dr. Thảo gives me a bit of an amused look as he tells me that the numbers in such reports are not right, sometimes there is "something funny." To demonstrate, he indicates a bulletin board covered with articles from the institute's in-house journal, one of which is on cholera risk factors. Laughing as he leafs through the pages, he tells me that the numbers are "probably all wrong. The methodology is not good. Maybe I will use it as an example for students," he adds. His laughter has a tone of both scorn and acceptance that this is the way things are.

I was intrigued by these skeptical scientists, whose humorous disparagement of government policy was refreshing in contrast to the self-seriousness of most state health functionaries. It was unclear to me what had helped them develop these outsider perspectives, and how they maintained their positions in a state agency despite their dissatisfaction with its institutional and scientific shortcomings. It didn't appear that there was any formal association supporting them. I met Dr. Thảo and Dr. Hiền opportunistically, not through any review of their publications: their critical opinions had not found their way into print, and from their demeanor I felt it would be unlikely for those perceptions to emerge in any more public forum than a conversation in the corner of an office.

While some dissenting opinions did circulate on the internet, a particularly important source for these two scientists came from outside Vietnam. As I later learned, both Dr. Hiền and Dr. Thảo were enthusiastic readers of a blog written by an "overseas Vietnamese" scientist and educator based in Australia, and had kept up with its posts assiduously during the cholera

months. Shortly after the beginning of the cholera outbreaks in October 2007, Vietnamese-born Nguyễn Văn Tuấn began publishing a series of articles on the cholera in Hanoi on his science-themed weblog with articles titled "Cholera Again!", "Cholera: Water is More Important than Shrimp Paste" and "Cholera: Call it the Right Name to Prevent It." With a tone that was both impatient, acute, and faintly humorous, Tuấn scathingly critiqued the flaws in the state's outbreak investigation and the reporting of the epidemic in state media – pointing out, for example, that the Ministry of Health persistently conflated the concepts of "risk factor" (*yêu tố nguy cơ*) and "cause," (*nguyên nhân*), making the correlation of shrimp paste and dog meat consumption with cholera appear to be a causal relationship. Particularly, this obscured the possibility that foodstuffs that had been prepared with cholera-contaminated water were the principal cause for the outbreaks. Further, the lack of a control group in epidemiological reports from the fall 2007 outbreak, Tuấn argued, made the Ministry's conclusions regarding cholera risk factors meaningless. Tuấn leveraged basic scientific observations such as these with the minimum of jargon and a willingness to recapitulate epidemiological precepts that should, he implied, be familiar to every government scientist.

Tuấn's clear, outspoken prose, refreshing by contrast to the indistinct, contradictory statements of the Ministry of Health, articulated a clear political challenge alongside its version of epidemiological events. He concluded one article, a polemic directed to the head of the Food and Safety Bureau, by writing "I feel that a high-level health [leader] like this giving a speech with so many cursory things it is rather remarkable. To plan your policy without relying on scientific evidence is absurd and dangerous" (Nguyễn Văn Tuấn 2008a). Such strongly voiced criticism might well have run Tuấn afoul of the authorities had he been based in Vietnam: since 2006, Vietnam has prominently detained, tried, and incarcerated bloggers, journalists, and other

dissidents advocating democratization and freedom of expression, association, and belief on charges including "subversion" and conducting "propaganda against the state" (Thayer 2009, Human Rights Watch 2012).

While Tuấn disclaimed any interest in the political significance of the cholera outbreaks (Nguyễn Văn Tuấn, email to author, 7 February 2010), it was difficult to avoid reading his blog as a moral indictment of the state as well as its science. For example, in an article called "Shrimp Paste is Innocent!" Tuấn pointed out that the Ministry of Health's conflation between correlation and causation had implicated the foodstuff incorrectly. Beyond poking holes in the state's science, Tuấn's vocabulary established a connection between the explicit critique of state science and an implicitly political critique. Notably, he made use of a legal vocabulary to argue for shrimp paste as "innocent" (*vô tội*), using terms such as "convict" (*kết tội*), "culprit" (*thủ phạm*), and "damages" (*thiệt hại*) to suggest that shrimp paste had been framed. In this way, Tuấn's article used objections founded in epidemiology and medical science to gesture towards a broader critique of other areas of the illegitimacy of state power, especially as exercised through juridical means and the manipulation of appearances. In this environment of repression of independent expressions, Tuấn's critique was resonant with other protests against the state's broader tendency to manipulate opinion for political convenience.

Over Tuấn's objections, which circulated mainly in debates in Vietnamese media, the dog meat and shrimp paste hypothesis was accepted as truth by the major international health agencies as well as the foreign press. A statement by Jean-Marc Olivé of the World Health Organization that "Eating dog meat or other food from outlets that serve it is linked to a 20-fold increase in the risk of developing the severe acute watery diarrhea commonly caused by the cholera bacterium" (Nguyen and Bennett April 23, 2008), for example, indicated that WHO's

confirmation of the state's hypothesis. In April 2008, Nguyễn Văn Tuấn and collaborators published an open letter to Olivé and pressed him on the issue, implying that he had ratified the story in the absence of fact for political convenience.

> We have just read your comment reported in Bloomberg.com (23/4/2008) in which you state that dog meat was linked to the cholera outbreak. According to the news service, you also state that eating dog meat or other food from dog-meat based outlets "is linked to a 20-fold increase" in the risk of the disease. This is an important and interesting fact, which we would like to enquire for more information. In fact, we are surprised by the word "link" which is considered too strong in the epidemiologic parlance.
>
> We have searched in PubMed for the evidence of the association between dog meat and cholera, but we could not locate any such evidence. Presumably, you and your colleagues have conducted a study on the association between dog meat and cholera, but you have not published the results. (…)
>
> If you have conducted such a study, could you please share with us the results, methodology, and interpretation. We specifically would like to know what was the study design, how many individuals had participated in the study, how long have they been followed up for, what bacteria/viruses were tested in dog meat, what were relative risks, and how [you could] establish the cause-effect relationship that you state in the media. We highly appreciate your help in sharing with us those information.
>
> Although everything is possible, we – non dog-meat eaters – consider that dog meat is unlikely linked to cholera. This is so, because the meat must be well cooked before serving, and in such a high temperature it is impossible for *V. cholerae* or indeed any known diarrhea-causing virus to survive. – Phan Xuan Trung, Nguyen Dinh Nguyen, and Nguyen Van Tuan, April 28, 2008

While the scientists' letter was voiced a scientific debate, it was also, in part, a political struggle: scientists who doubted the state's version of the truth calling on the representative of an international health body to uphold the scientific method. Notably, the authors qualified themselves as nonpartisan and unmarked by the influence of cultural traits (as "non-dog meat eaters") and disinterested in questions outside the scientific methods and evidence that supported Olivé's statement. Nonetheless, the Vietnamese writers frame cholera as the ground for a tacitly

moral struggle, a charge that is sidestepped by the technocratic response of the WHO: Olivé's brief response to their letter pointed out that the National Institute of Hygiene and Epidemiology had conducted the investigations on which he based his statement, that research was underway "to better clarify the chain of infection," and that to receive further information they should contact NIHE directly (Nguyễn Văn Tuấn 2008b).

What these interactions suggest – besides the narrowness of the WHO's role and function in Vietnam[160] – was the way in which theories of doubt function as an idiom of moral and political critique. In this chapter, I discuss a number of less frequently and less publicly discussed theories of cholera causation, some of which were addressed by critical scientists such as Nguyễn Văn Tuấn, Phan Xuân Trung, Nguyễn Đình Nguyên, and my friends Dr. Hiền and Dr. Thảo. These understudied risk factors include urban poverty, the effect of transition in the health care system, and Hanoi's urban water and sanitary infrastructure.

Unpopular Theory 1: Socioeconomic Status and Cholera

Mainstream accounts of the cholera in Hanoi framed it in association to urban poverty only uncritically and in passing, relying on an assumed relationship between the characteristics of poor communities and individuals and their higher risk for infection. Despite the obvious contradiction between this association and the discourse of middle-class risk via dog meat consumption, the link between poverty and cholera was apparently so common-sense as to require no proof. The alleged relationship between poverty and cholera was perhaps one of the outbreak's least investigated hypotheses.

There is a long association between cholera and certain kinds of poverty in Vietnam: as

[160] Cf. Godlee 1994.

described in Chapter Two, the association between poverty and poor public health outcomes in Vietnam was amply documented during the colonial period. Under the socialist period, however, despite extreme nationwide resource constraints, population health indicators increased remarkably, subsequent to a massive social mobilization to promote health at the grassroots level. In the post-liberalization period, as Segall and collaborators wrote in their disparaging assessment of the effects of market transition on health outcomes in Vietnam, "new" forms of poverty are more closely allied with negative public health outcomes:

> Whatever the advantages are of liberalisation over socialist planning, the health of large sections of the population is evidently not among them. A new poor has arisen in the transitional economies with much less social sector support. [Segall et al. 2002:497-8]

While poverty is generally a predictor for vulnerability to ill health, the reconfiguration of Vietnam's "social determinants of health"– such as environmental regulation, housing, and education – have, in the post-transition period, become much less favorable for the general population. Health, and the factors that support health, are increasingly dependent on individual ability to pay for them in cash. Vulnerable social groups are more likely to have less access to improved sanitation and safe water, to live in crowded housing, to work in unsafe conditions, to have less education, and to be exposed to pollution; economic poverty can translate into ill health and vice versa. As such, "the association between poverty and ill-health reflects causality running in both directions" (Wagstaff 2002:97).

Poor families in Hanoi, despite their physical proximity to curative health care, and the likelihood that they are better-off than poor people in rural areas, are vulnerable to ill health. This was substantiated by the high percentage of respondents who reported serious health concerns, many of which were chronic and required ongoing expenditure for care. Many of the

poor urban families I interviewed reported serious and costly episodes of ill health, describing their struggles to care for ill, injured, or disabled family members, or to access care for themselves. Their complaints ranging from psychoemotional disorders like autism and schizophrenia to noncommunicable illnesses such as cancer and diabetes to infectious diseases such as dengue fever and tuberculosis.[161] Table 7 lists the health problems reported by the first twenty households in my interview sample.

Respondent	**Health problem**
1	No serious complaints
2	Viral fever (youngest son); fever (husband); dengue fever (daughter); cholera (older son)
3	Tuberculosis (husband, wife); bronchitis, diarrhea (child)
4	Occupational injury, diabetes; Japanese encephalitis (daughter)
5	None
6	Cancer of gastrointestinal tract; psychological or neurological difficulty ("suffering from nerves"/*bị thần kinh*) (son)
7	None
8	Congenital heart condition, still requiring surgery (daughter); inguinal hernia at birth, now resolved (son)
9	Accidents (grandfather, grandmother); stroke (grandfather); cataracts (grandmother); diarrhea (daughter)
10	No serious complaints
11	No serious complaints
12	Lung inflammation at birth, stunting (child)
13	Psychological or neurological disability[162] (aunt)
14	Traffic accident (grandmother)
15	No serious problems
16	Cardiac swelling at birth, intestinal problems, autism (child) (*bị tự kỷ*)
17	Extrapulmonary tuberculosis; mental illness (two sisters-in-law); stroke (mother); dementia (mother-in-law)
18	Type 2 diabetes; stroke (wife)
19	Low blood pressure
20	Dengue fever (two children), low blood pressure (respondent)

[161] While I did not independently confirm diagnoses with health station or other authorities, the cultural freedom around confidentiality allowed families to share their own medical records with me to document their history of receiving care – households keep their own medical "handbooks" (*sổ*) in the home, as well as x-rays, prescriptions, and insurance documentation – and sometimes health station workers independently volunteered that family I had interviewed had experienced a particularly severe illness or injury. I never had reason to suspect that a family had exaggerated or misrepresented their situation to me; often the evidence was visible.

[162] This was glossed by the family as having an "abnormal brain" (*đầu óc không bình thường*). Psychiatric complaints in Vietnam are often referenced in non-technical language.

Table 7: Injuries, Illnesses and Disabilities Reported by Interviewees (Respondents 1-20, Hòang Mai district).

This remarkably high burden of disease and ill health found in a small sample was not significantly higher than those in other city districts where I conducted interviews. It is especially startling in consideration of the fact that poor families in Vietnam are found to report *less* sickness than rich families, assumedly because they have "'less time' to be sick and tend to ignore illness if they possibly can" (Segall et al. 2002:499). While numerous families suggested that their health was good, with ill health only amounting to occasional coughing and sneezing (*hắt hơi*), many of the health problems other families faced were serious enough not only to require major household expenditure[163] but also to limit or prevent future earning or other household contribution by the affected family member. The burden of ill health in this admittedly small sample contravenes the finding of Segall et al. that "most illnesses in the communes are relatively minor" (Segall et al. 2002:503), suggesting that serious and chronic illnesses are potentially more prevalent.

Respondents often spoke of the socioeconomic dimensions of ill health, which encompassed not only the immediate cost of health care, but also lost wages, access to (or absence of) state and other support, borrowing money, and the necessity of working extra to support an ill, injured, or disabled family member. Chronic illnesses or major accidents were particularly catastrophic. One woman, for example, reported having spent over 30 million VNĐ (~$1,500 US) after her father had an accident requiring surgery. She said "These last few years, my house has been endlessly exhausted (*kiệt quệ vô cùng*). (…) I can't do anything about it; I can't eat any less. So much money has gone into medicine (*bao nhiêu tiền vào tiền thuốc hết*),

that's why we're poor like this" (Đỗ Thị Yên, female, 55 years old, Hoàng Mai district, Đại Kim ward, March 1 2010).

Poverty and Cholera Epidemiology in Hanoi, Fall 2007

The correlation of poverty data and data on the fall 2007 cholera outbreaks allow me to make some observations regarding the hypothesis that cholera epidemiology was influenced by district-level poverty. A cholera epidemiology data set, shared at a workshop held by the WHO's Field Epidemiology Training Program at Hanoi Medical University, provided me with data on the prevalence and spatial distribution of cholera in Hanoi, disaggregated to the level of the district.[164] These data appear in Table 8, "Cholera cases reported in districts in and surrounding Hanoi, October 25-November 25, 2007" and Figure 11, "Map of the attack rate of acute diarrhea in districts of Hanoi, October-November 2011." As shown, the districts reporting the three largest case counts were centrally located Hai Bà Trưng district, southerly Hoàng Mai district, and Đống Đa district, located west of the downtown urban core. The case counts and case rates in these urban areas were multiple times higher than those reported in semi-rural Đông Anh or Sóc Sơn, or in city districts Ba Đình or Cầu Giấy (Unpublished data courtesy of Dr. Tran Minh Nhu Nguyen, Advisor to the Field Epidemiology Training Program, Vietnam, personal communication, April 6 2010).

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[163] "In 1998, around 80% of health spending in Vietnam was paid out-of-pocket" (Wagstaff and van Doorslaer 2003:922).

[164] Though I was unable to source official data on the epidemiological patterning of cholera in Hanoi in spring 2008, media reports suggested that it appeared in a slightly different pattern during the second outbreak, with more cases in Thanh Xuân district than any other: "… Institute statistics have shown that the greatest concentration of acute dangerous diarrhea [*sic*] patients in Hanoi are the residential areas belonging to Thanh Xuân district (25.7%), then Hai Bà Trưng (18%), then Đống Đa and Hoàng Mai… Epidemiological testing shows that more than half of the cases of patients ate dog meat, shrimp paste, and raw vegetables; cases of a patient eating at a small restaurant made up 15%, 3 cases were hospitalized after eating a communal meal [*ăn cỗ*, i.e. sharing food at a wedding or a funeral]" (Dân Trí 2009).

District	# of cases reported	% of total cases	Cases per 100,000	Rural/Urban
Ba Đình	12	6.4	5.255	Urban
Cầu Giấy	16	8.6	10.884	Urban
Đông Anh	1	1.0	0.361	Rural
Đống Đa	34	18.2	9.659	Urban
Gia Lâm	1	1.0	0.487	Rural
Hai Bà Trưng	32	17.1	8.466	Urban
Hưng Yên	1	1.0	0.089	Rural
Hoàn Kiếm	5	2.6	2.808	Urban
Hoàng Mai	30	16.0	13.871	Urban
Long Biên	1	1.0	0.586	Urban
No loc'n recorded	5	2.6	N/A	N/A
Sóc Sơn	5	2.6	1.967	Rural
Tây Hồ	5	2.6	4.342	Urban
Thanh Trì	11	5.9	4.564	Rural
Thành Xuân	12	6.4	6.486	Urban
Từ Liêm	16	8.6	6.667	Rural
Total cases	**187**			

Table 8: Confirmed cholera cases reported in districts in and surrounding Hanoi, October 25-November 25, 2007. Source: Unpublished data courtesy of Dr. Tran Minh Nhu Nguyen, Advisor to the Field Epidemiology Training Program, Vietnam, personal communication, April 6 2010.

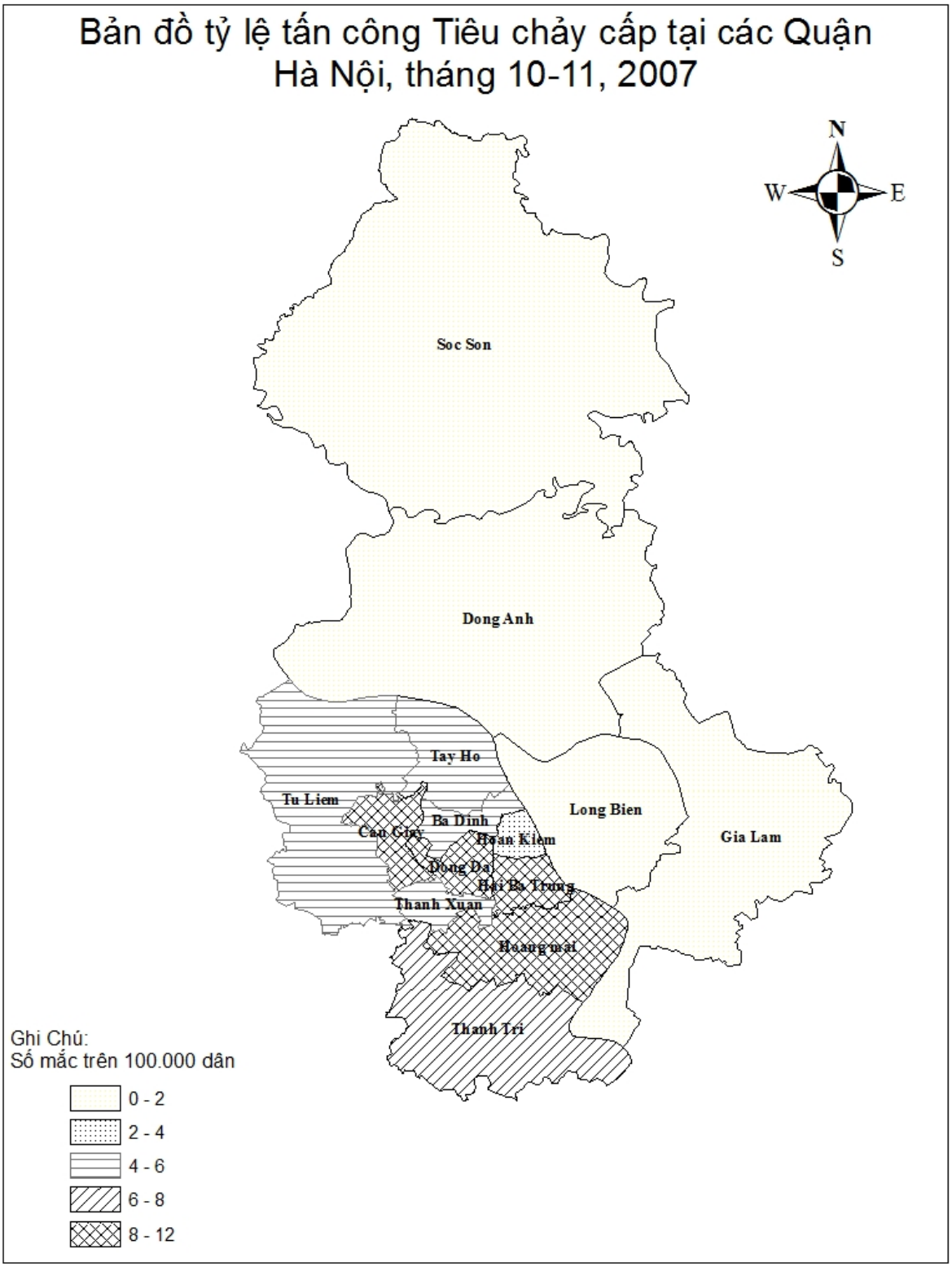


Figure 11: "Map of the attack rate of acute diarrhea in districts of Hanoi, October-

November 2007." ("*Note*: Number of cases per 100,000 people.") Source: Tran Minh Nhu Nguyen et al. 2008.

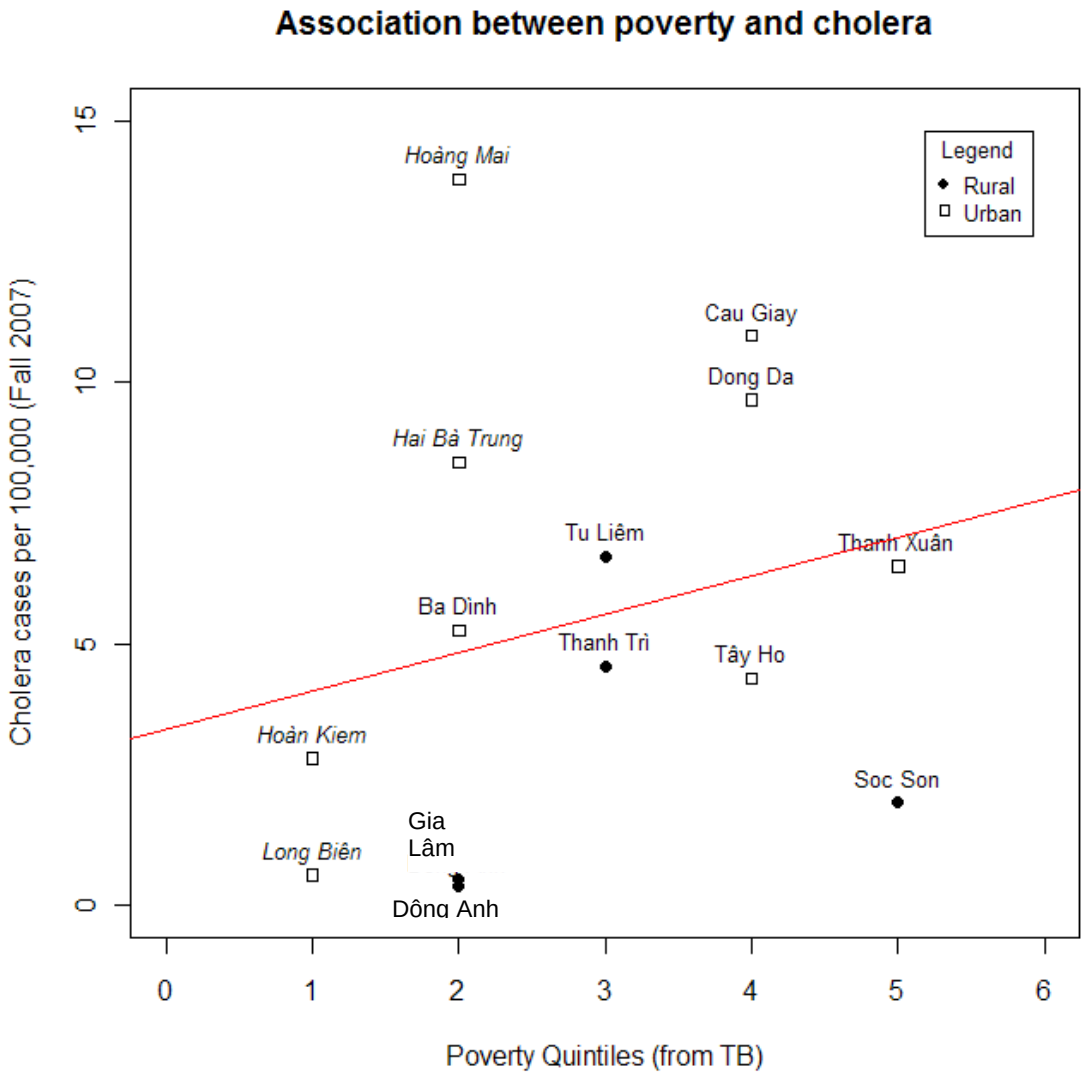
The table below summarizes the relationship between the socioeconomic characteristics of my five proposed (and four actual) field sites vis-à-vis the local prevalence of confirmed cases of cholera.[165]

District	Poverty per TB Incidence	Cholera prevalence (cases/100,000)	Poverty per FSP
1 Đống Đa	2nd richest quintile	More cholera (9.659)	2nd richest
2 Hai Bà Trưng	2nd poorest quintile	More cholera (8.466)	3rd richest
3 Hoàn Kiếm	Poorest quintile	Less cholera (2.808)	2nd richest
4 Hoàng Mai	2nd poorest quintile	More cholera (13.871)	2nd richest
5 Long Biên	Poorest quintile	Less cholera (0.586)	3rd richest

Table 9: Districts nominated for interviewing, approximate respective poverty quintiles, and cholera prevalence per district (based on epidemiological data for fall 2007).

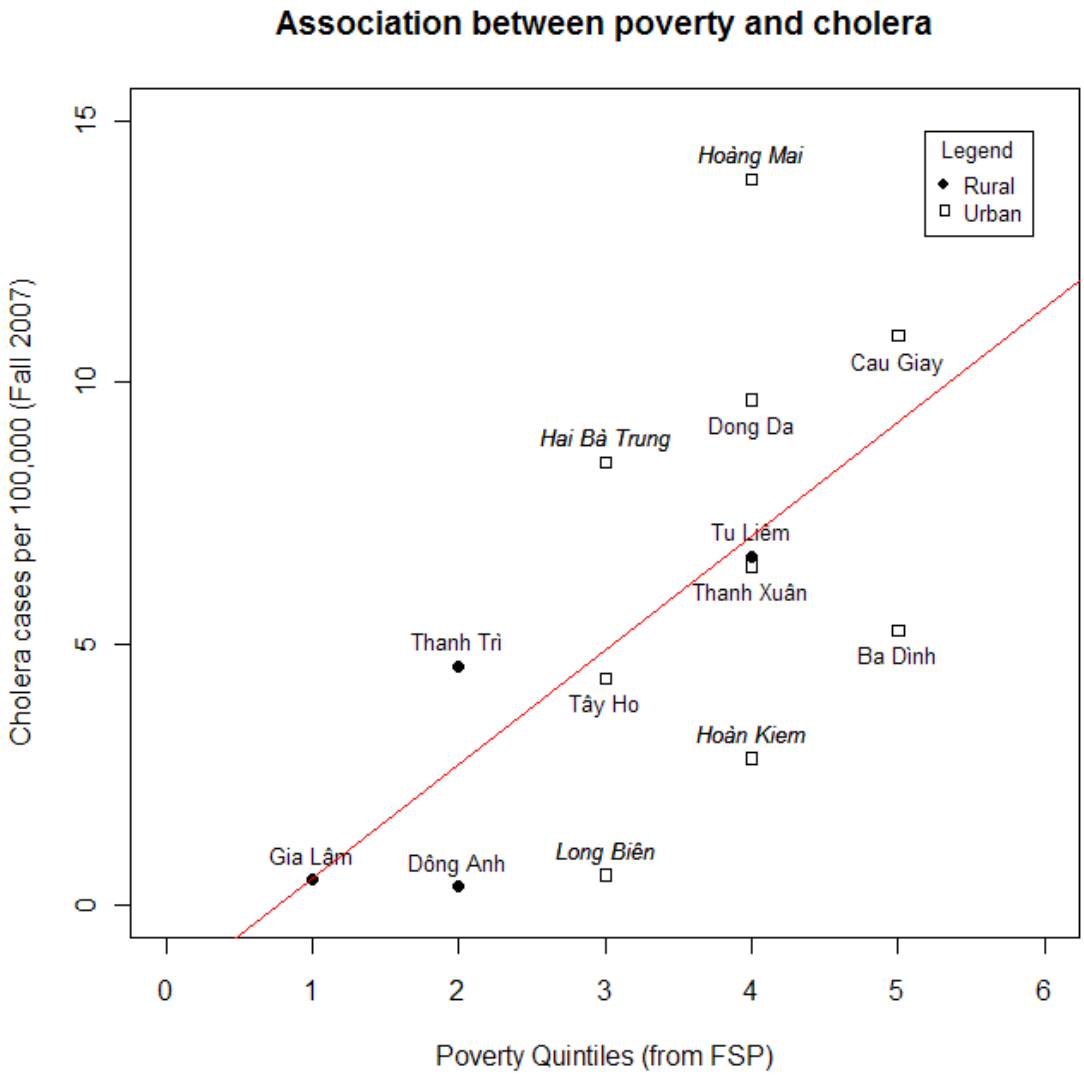
With more precision than in the above schematically described table, statistical analysis of the association between district-level cholera cases and district-level poverty rates for all Hanoi districts shows a potentially strong inverse association between poverty and cholera, depending on whether the tuberculosis proxy data for poverty or the FSP poverty data are used.

[165] Unfortunately I do not have access to data documenting the geography of "clinical," or unconfirmed, cases of cholera for this or any other period, and I am not able to speculate on the degree to which confirmed cases represent the geography of clinical cholera.



Graph 6: Association between poverty (per TB data) and cholera in districts of Hanoi, 2007. Italics indicate that sites were visited. Rural districts are depicted with a closed circle; urban districts are depicted with an open square. On the *x*-axis, a value of 0 indicates the poorest urban district, and a value of 6 indicates the richest. On the *y*-axis, a value of 0 indicates no cases of cholera reported, and a value of 15 indicates 15 cases of cholera reported. The *p*-value is 0.30.

Analysis of the association between TB proxy poverty data set and cholera revealed a Spearman correlation coefficient (r_s) of 0.30, indicating weak to moderate positive association between wealth and cholera prevalence. The *p*-value was 0.30, not a statistically significant value.



Graph 7: Association between poverty (per FSP data) and cholera in districts of Hanoi, 2007. Italics indicate that sites were visited. Rural districts are depicted with a closed circle; urban districts are depicted with an open square. On the *x*-axis, a value of 0 indicates the poorest urban district, and a value of 6 indicates the richest. On the *y*-axis, a value of 0 indicates no cases of cholera reported, and a value of 15 indicates 15 cases of cholera reported. The *p*-value is 0.01.

Graph 7 shows the association between district-level poverty and cholera incidence in the 2007 outbreaks, using poverty data from a 2007 survey by a French development agency (Gubry et al. 2009). The *x*-axis represents poverty, with poorer districts to the left and richer districts to the right; the *y*-axis represents cholera incidence in 2007, with increasing incidence represented

as larger numbers. Analysis of these data sets revealed a Spearman correlation coefficient of 0.67 and a statistically significant *p*-value of 0.01. This demonstrates a much stronger negative correlation between district-level poverty and cholera, if poverty is measured using the FSP data. This finding suggests an unexpected potential association between higher socioeconomic status and cholera risk in the 2007 outbreaks in Hanoi.

However, this is a provisional finding, given the uncertainty of poverty statistics for Hanoi districts, and the absence of data for the 2008-2010 cholera outbreaks, and whether or not it represents a true statistical association is challenging to establish. Potential factors to explain the apparent association between increased cholera rates and more "wealthy" districts could include the tendency of wealthier individuals to report symptoms more frequently and to receive more medical services, for example. As prior discussion has suggested, too, the qualification of certain city districts as "poor" is premised on assumptions and techniques that may be faulty. Indeed, without more information published regarding the FSP's approach to defining and collecting data on "poor" households in Hanoi[166], it is challenging to assess how accurate these designations may be. Analysis in this area can only be as good as the apparent percentages that are extractable from a relatively sample. As well, the less than total reliability of the cholera data could influence the appearance of statistical association.

Comparison with a larger data set would help investigate the veracity of this finding, and rule out whether it represents a chance occurrence.[167] Using data drawn from elsewhere in Vietnam or from another location with similar political economic characteristics, would allow more meaningful generalizations to be reached regarding the correlation of socioeconomic status

[166] According to Gubry et al. (2008:4), the FSP study surveyed 1,000 households (3,818 individuals) in Hanoi.
[167] While unlikely, this is not an impossibility. The p-value of 0.05 generated by the association of the poverty and cholera data suggests that there is a one in twenty chance that the data appear in this configuration by random chance.

and cholera risk. Ideally, a large-scale epidemiological study with case controls could more conclusively confirm or refute this provisional finding, and establish whether this finding demonstrates a chance outcome or a true association. Individual cases and controls would also allow this analysis to avoid an "ecological fallacy" (Selvin 1965), in which people residing in a "rich" or "poor" district are unproblematically assumed to have a corresponding socioeconomic status.

Finally, other potential sources of confounding have not been controlled in this analysis. Hypothetically, behavioral, environmental, or other variables other than socioeconomic status might be more influential in shaping the association pattern shown in this analysis, and respective wealth or poverty might only be correlated to cholera risk, instead of functioning as a variable with causal influence.

If it were true that cholera and higher socioeconomic status were statistically significantly associated, it would indicate that the tendency to blame poor individuals and communities for cholera was misplaced, and that the messages expressing alarm regarding middle-class vulnerability to cholera were more justified than they might have originally appeared. As well, this preliminary finding suggests that more risk local factors require more serious investigation – such as, for example, the environmental or infrastructural factors that might influence cholera transmission in more "wealthy" neighborhoods, and that at-risk communities need more focused inputs of education, prevention, and disease surveillance during cholera outbreaks.

Unpopular Theory 2: Changes to the Health Sector in Post-Transition Vietnam

A macroeconomic framing of the factors impacting diarrheal disease epidemiology in Vietnam reveals an even broader set of inputs to the cholera outbreaks of 2007-2010, and

requires a more deeply historicized approach to understanding these new sources of vulnerability. Among the world's countries that have embarked on transition from central planning to a market economy, Vietnam's transition – like that of China but unlike the transitional economies of the former Soviet Union – did not result in "major economic and fiscal contraction" (Segall et al. 2002:497), or demographic collapse (Griffin 1998:4).[168] In fact, one assessment speculated that *đổi mới* was successful not despite Vietnam's socialist institutions, but because the country's favorable "initial conditions" – that is, the successes of the socialist state's priorities – facilitated the institutionalization of a market economy:

> …Vietnam also inherited from the socialist period a fairly equal distribution of human capital. Literacy was widespread, most people had at least a few years of formal education and the great majority of the population had access to primary health care. As a result, Vietnam possessed at the outset of the reforms a skilled and healthy labour force that was able to respond quickly to economic opportunities [Griffin 1998:13].[169]

It is an intriguing claim that Vietnam's transition was less chaotic than similar processes in post-Soviet states owing to its more successful execution of a socialist model. Whether or not these facilitated the introduction of market logics and mechanisms into Vietnam, these initial inputs – the equitable distribution of health and educational resources – were among *đổi mới*'s significant early sacrifices.

Whereas free universal health care at the lowest levels is still provided to children under the age of six, commune health stations no longer provide free care to all; the social basis for that institution has been disarticulated. Market reform decollectivized agriculture and slashed state

[168] However, even in the early boom years of the mid-1990s, per-capita income was still only about $200 (Griffin 1998:1). After over a decade of market reform, Vietnam's per capita income remained among "the lowest in the world" (Griffin 1998:ix), and the country still counts among the world's poorest countries (Glewwe et al. 2004:351).

[169] An earlier assessment of the potential of Vietnam's transition economy demographer Judith Banister predicted the country's future economic growth, based on "low mortality, declining fertility, high literacy, and high proportion of the population with formal education" (1993:62). These strengths can be traced to sectoral policies implemented by the Democratic Republic of Vietnam.

employees en masse, measures which repercussed through the health sector: with the end of agricultural collectives, health stations were "quickly deprived…of their major source of funding. The brigade nursing system also collapsed consequently and communes could, as a result, no longer rely on a volunteer network of health care workers" (Malhotra 1999:15). As a result, they assimilated the logic of cost recovery: by the early 1990s, commune health stations were "mainly reliant on revenues from (largely unregulated) user fees for drugs and services," such that "the distinction between 'private' and 'public' health care at the commune level has become quite blurred" (Smithson 1993:iii).

The national healthcare system was privatized in 1989 (Monnais and Tousignant 2006:134); and fees for services were introduced in the education and health sectors in the same year (London 2004:130). Private medical practice was legalized, and conditions of liberalized foreign trade translated into an influx of foreign pharmaceuticals and other medical technologies. A "mixed public-private" health care system arose, concomitant with state disinvestment in the health sector and the deregulation of private medical practice, a trend that coincided with the state's diminishing investment in the health sector: in 1984, the Government of Vietnam expended 11 percent of the national budget on health (Ladinsky 1987:1105); by 2003, this figure had dropped to 4.21 percent (WHO 2003:368). This represented, as Jonathan London indicates, a vast transfer of the direct costs of health onto the population:

> Public spending on health then declined rapidly as a proportion of total health spending and by the early 1990s, 80 percent of all health expenditure was estimated to be out-of-pocket. Thus, in the span of a few years, the principles governing payment for heath care in Viet Nam almost fully inverted. [London 2008:115]

This transformation is part of a broader political economic trend: a logic that is termed "socialization" (*xã hội hóa*). This term is used to imply not the capture of an entity by the state

in the interest of the public, but the opposite: the privatization of formerly socialized goods. "Socialization" – which might also be called neoliberalization, or what London refers to as "market Leninism" – has entailed the transfer of the expense of formerly public sectors such as health and education to individuals and households (London 2004:127). This has the consequence of contributing to the transformation of economic disparities into health disparities, making formerly free health care increasingly unaffordable for poor families:

> Out-of-pocket costs for health care represent a disproportionately large share of the expenditure of poor people in Viet Nam. In 2001, the World Bank reported that "…a single visit to a public hospital takes up 22% of all nonfood expenditure for a year for a typical person in the lowest quintile." (World Bank et al. 2001:149)

While the post-reform economy was growing at unprecedented speed, optimists placed faith in economic development, modernization, and technology to sustain (if not improve) Vietnam's public health performance, confident that health and the economy would appreciate in tandem. However, studies of the health sector in the *đổi mới* era tend to take more critical appraisals, and numerous researchers observed that economic liberalization was creating health disparities (cf. Craig 2002, Gammeltoft 2007, Gellert 1995, Ladinsky et al. 2000, Witter 1996, Wolffers 1995). Even studies that acknowledge the macroeconomic gains accomplished by reform note its contribution to stratified health outcomes, as in the following passage by health economist Sophie Witter:

> The majority of the population has benefited economically from the recent changes as agricultural production and prices have increased and new opportunities for business and trading opened up. However, this has increased income disparities in what had been a remarkably egalitarian society. At the same time, safety nets, subsidies and free services have disappeared, and the costs of goods such as health care have increased. Thus, access to health care is increasingly dictated by income, which in turn relates to geographical position, skills, and access to labour, capital, land and power. [Witter 1996:160]

A study of poor rural households in post-reform Vietnam found that poor families expended a very high average of 16.8 percent of their income for health care, despite reporting less sickness than wealthier families (Segall et al. 2002). Despite the tendency of poor families to self-treat illness (Witter 1996), "in the face of family illness, the poor stretch their resources to obtain health care and put their household economies under strain…To meet costs, poor households regularly had to sell assets… and/or borrow money and … reduce essential consumption and/or withdraw children from school" (Segall et al. 2002:502-503). As one woman stated to me in an interview, "Every time I'm sick we're bankrupt." (Ngô Thị Tuyết, female, 46 years old, Hoàng Mai district, Mai Động ward, March 5, 2010.)

As a 2007 tracer study showed, the cost of health care prevents some families from seeking care for diarrheal illness, no matter how severe, and poor individuals were three times as likely not to seek care as those in the rich group (Luong et al. 2007:577). Indeed, a case study suggested that expenditure for Vietnamese households in episodes of diarrhea equaled 63 percent and 75 percent of average monthly non-food expenditure for poor and near-poor households (Di McIntyre et al. 2007:697). This suggests that access to simple curative services is prohibitively expensive for many poor individuals, and that a disease which was once recognized as a national priority for universal eradication now represents an opportunity for profit.

Medicalization

In the post-reform period, the Vietnamese health care system has transformed from an egalitarian provider of basic care to a technocratic system indifferent to poor patients, as a hospital physician suggested to me in a moment away from caring for patients. As he maneuvered his small car through Hanoi traffic, he explained: "If the health system was set up

for the benefit of patients, not for the benefit of health policymakers, maybe the system would be okay," he reflected. "As it is, it's terrible. About forty percent of my patients don't have insurance. They can't pay for care. So if they are really sick but cannot pay, they just go home to die."

These transformations in the funding and accessibility of the health sector have reoriented public health services in Vietnam away from their traditional emphasis on preventive medicine and primary health care, not least because private health care providers participate very little in the traditional primary health care activities that had previously represented the cornerstone of health care provision in Vietnam (WHO 2003:368). The diminution of primary health care, with its priority on preventive health, sanitation, and health education, has led to a decrease in the "financial accessibility of basic health care to poor and vulnerable families and children" (Malhotra 1999:13). As one observer wrote, "the country still has sufficient problems with communicable diseases and sanitation to justify continued heavy investment in primary care" (Bryant 1998:257).

Initiatives which would once have been the responsibility of commune health stations and their staff – such as the promotion of handwashing – now have very little traction, owing at least in part to government neglect and lack of political will. Studies consistently find low rates of handwashing with soap in urban as well as rural Vietnamese communities and homes (Cogswell and Le Thi Anh Thu 2008:7), and note that although handwashing is part of the curriculum for Vietnamese schoolchildren, it is little practiced in schools owing to the lack of handwashing facilities. The two handwashing initiatives currently operating in Vietnam are supported by outside funding, including – perhaps cynically – from the Unilever corporation (Cogswell and Le Thi Anh Thu 2008:9).

Whereas the health sector in Vietnam during the socialist prioritized primary health care, including preventive health measures and ancillary health promotion activities such as health education and the improvement of sanitation, in the post-reform period it has become marked by a new degree of medicalization. Further, the desocialization of medicine and the new need for health care providers to recover costs has meant that emphasis has shifted away from inexpensive preventive strategies and towards more profitable curative medicine. Increased household prosperity, deregulation of the health sector, the influx of imported pharmaceuticals and medical technology, and the legalization of private medical practices – which represent a popular way for physicians in the public sector to augment state salaries –, have all abetted the proliferation of curative medical services.

While the broader extension of some medical resources in the post-reform period has had positive outcomes, medicalization does not necessarily imply improvement in public health trends. Medicalization and the prioritization of high-tech interventions in the Vietnamese health sector, visible in changes such as such as the increasing popularity of intravenous instead of oral rehydration, may imply the substitution of a more invasive, risky, and expensive technology for a more simple, affordable one. Particularly, the increasing tendency for medical practice to mean pharmaceutical dispensing[170] has entailed ambiguous consequences, including the rising prevalence of self-treatment ("*tự làm bác sĩ*") and the "irrational" use of antibiotics (Nguyễn Thị Kim Chúc 1999, Wolffers 1995:1329).[171] The commercialization of medicine has also

[170] This trend began soon after liberalization, and has now been observed for almost two decades: "In the 1990s, the most frequent form of healthcare use in Vietnam consisted in recourse to drug vendors, which … accounted for two thirds of all contact with healthcare facilities or professionals" (Monnais and Tousignant 2006: 134).

[171] The lack of regulation on the dispensing of pharmaceuticals has created a buyer's market, as David Craig demonstrates in his ethnography *Familiar Medicine* (2002); poor households are especially likely to purchase drugs for self-treatment. Owing to lack of regulation, Vietnamese pharmacies frequently dispense drugs over the counter without a consultation or a prescription. Under such circumstances, the tendency towards socializating costs and privatizing benefits translates into unnervingly physical terms: the growth of a deregulated, demand-driven market for pharmaceuticals creates the conditions for the development of drug resistance (cf. Bui Thu Thi Hien 2007).

contributed to this trend by creating perverse incentives for health care providers to overprescribe tests, pharmaceuticals, and procedures that are moneymakers for doctors and medical facilities. For a disease such as cholera, which is readily both prevented and treated by less skilled health workers and laypeople in their homes, medicalization is particularly counterproductive.

In 2000, Ladinsky and colleagues predicted that *đổi mới* would amplify the medical establishment's tendency towards "the provision of curative care and drugs, both of which are income-generating activities, will increase, while preventive activities and self-care are discouraged" (Ladinsky et al. 2000:91). Whereas pharmaceuticals were formerly free, the health care system under *đổi mới* came not only to allow, but to encourage the sale of pharmaceuticals at state health facilities. These researchers found that pharmaceuticals had, in fact, come to represent the major source of cost recovery and profit generation for the health care system, "since some provinces have decided against service charges but use the sale of pharmaceuticals as their primary source of income" (Ladinsky et al. 2000:91). This prediction appears to be borne out in contemporary health-care contexts in Hanoi. One respondent explained to me that he had completely stopped using the health station for any preventive purposes owing to their refusal to supply free medicine.

ML Do you ever go to the health station?

Ông Việt No, I don't go to the health station to get health checks; they don't give medicine.

ML Why don't they give you medicine?

Ông Việt You always have to buy it, they don't *give* anyone medicine. I have health insurance but they just give you cheap medicine; some other medicines they force you to buy. – Trần Văn Việt, male, 84 years old, Hoàng Mai district, Tương Mai ward, March 7, 2010.

Corruption

> Household health expenditure has skyrocketed, especially for the purchase of drugs and the making of informal payments. The poor in these countries thus also find health care less accessible and affordable. (Segall et al. 2002: 497).

ML When you go to the hospital, do you have to give the doctor money (*đưa tiền cho bác sĩ*)?

Bà Tuyết I don't have any money to give them, and my children just tell the doctors and the employees to stop, we're a poor household. There was a time when [she] had a very bad kidney pain and we thought she'd die; the girls came and cried and said our parents are old and sick, they don't have anything. They went and gathered up a little money; they ran around and borrowed, then brought the money down to the hospital. – Trần Thị Tuyết, female, 78 years old, Hai Bà Trưng district, Đồng Mác ward, 13 April 2010

The macroeconomic implication of a transition to user fees entails an unintended but perverse tendency by the health care system's to value wealthy patients with less serious diseases above poorer patients with more serious diseases. This is partially because poor patients using health insurance are less profitable to treat, but also the artifact of a perverse synergy between medicalization, "socialization," and corruption. As I was told on literally dozens of occasions, underpaid public health workers routinely supplement their incomes with informal payments. The practice of giving health care workers money in envelopes (*biểu tiền*) to "incentivize" them to perform their jobs (*khuyến khích*) is so widespread in Vietnam that it has effectively created a parallel economy inside public health care facilities, privatizing goods and services that are intended to be distributed to all citizens equally.

As a foreign health expert facetiously characterized it, this is the "public-private system in one hospital room." In an ambiance of social stratification and uncertain but differentiated entitlements, Vietnamese patients use money to create relationships with health care providers as

part of their process of seeking health care. Paying someone, even for "free" services, is tacitly recognized as the guarantee of good service, safety, and favorable treatment by health personnel.

While informal payments are sometimes framed as a polite thank-you for a job well done, more a gift than a payment (cf. Andaya 2009), at other times they're extorted; as a university colleague of mine wryly noted, "Doctors are very rich here, they know what door to knock on."[172] It is a commonplace to state that in the "old days," meaning the socialist period, people had more humanistic "affection" (*tình cảm*), exploited each other less, and did not "use money to solve everything." In interviews and in conversations with friends, I frequently heard people express their misgivings about the motivations of health care workers. In the present day, as more than one colleague averred, nurses make an injection deliberately painful if you don't present them with at least 10,000 đồng ($0.50 US).[173] Only the most impoverished patients do not participate in the envelope economy. The only way of escaping the requirement to make extra payments is by visiting a traditional medicine practitioner or using the private health sector. The introduction of profit as incentive means that a health provider's care now has the appearance of a self-interested gesture, and that the ethos of fraternal love and sacrifice that used to mark a doctor's attention to a patient has been replaced by economic and interpersonal

[172] My friend made this remark in the context of a family emergency. He had just sent home 1 million VNĐ ($120 US) to contribute to the 25 million his family needed to save his aunt after a botched delivery. The hospital had to "transfer her up" – meaning they couldn't treat her and had to send her to the provincial or city hospital. The family sold gold to raise the money. My friend went on to explain that when he was a child, his mother hemorrhaged in childbirth and was carried to a health station in a hammock made of bamboo poles. Swinging in the hammock made the mother's bleeding worse; both she and her baby died. This haunting story of health outcomes over the last thirty years struck me as a representative illustration of systemic changes in the health sector in Vietnam since *đổi mới*.

[173] An atmosphere of coercion and abuse of power permeates spaces of official health care, and is substantiated by anthropologists who directly observe the provision of hospital procedures directly: no longer bothering to live up to the image of a "model doctor," many health care providers shout at their patients and order them around imperiously (cf. Nguyễn-võ 2008 and Gammeltoft 2009). Many of my friends as well as several interview respondents noted the tendency of overworked health care staff to express impatience and contempt, especially towards visibly poor patients. Though respondents often appeared to wish to avoid the possibility of offending us or exposing themselves politically by criticizing the health system, several respondents, when asked directly, stated that they avoided going to the hospital or commune health stations because they anticipated unpleasant treatment, especially if they were going to use health insurance to receive discounted or free care.

violence and abuse of power.

More sophisticated forms of corruption in the health care system rely on the manipulation of prescriptions for pharmaceuticals and tests. One interview respondent told me that hospitals had refused to accept her test results from other hospitals, and implied this was a way to generating income from new tests. One city hospital was found to have established a system of discharging patients early in the day to save a dose of their medication, creating a surplus of drugs to be hoarded and ultimately yielding full boxes that could be sold from hospital pharmacies. In 1989, a pharmacist at Hanoi's Tuberculosis Hospital was tried for selling tuberculostatics on the black market; pharmacists also over-reported cases of tuberculosis to receive extra drugs to sell on the black market (Wolffers 1995:1329).

The experience of one woman in Hoàng Mai district suggested that even poor patients were unfairly compelled to pay exorbitant prices for prescription medication. One respondent I met was paying for her husband's expensive anti-psychotics on a parking attendant's salary; he was institutionalized and she was the family's sole wage earner. On her behalf, I visited a community social work center to learn whether cheaper equivalents were available, and was told by the consulting pharmacist that hospital doctors had manipulated her into buying the brand-name forms of several essential drugs which should have been provided to her free of charge. The pharmacist provided me the generic names of the drugs as she remarked that this sort of thing was common practice at state hospitals. As a recent report suggests, the commodification and corruption of the health care system seriously compromises not only the health of the poor in post-transition Vietnam, but the nation's future prospects for equity:

> It is undeniable that Vietnam's health care system has raised the national average life expectancy and lowered the child mortality rate. Nevertheless, the current health care system contains a number of structural weaknesses that foster incentives for the abuse of power. This situation needs rectification should the

> health care system continue to serve as a driving force for poverty reduction. [Vasavakul 2009:7]

As these observations suggest, the post-transition Vietnamese health sector has tilted not only towards cost recovery, but to profit discovery. As a result, the areas of priority have shifted away from health problems which can be easily prevented and treated without expensive drugs, tests, or equipment.

At the same time that the health care system has become semi-privatized, the state health sector has retained its Soviet aspect, marked by bureaucracy, proceduralism, factionalism, favoritism, and, as American health workers were fond of telling me, information "stovepiping" and "silo-ing." However, the intensely vertical nature of the health sector enabled rapid response to certain kinds of public health problems. An anecdote about the swift apprehension and quarantine of an electrician after his suspected exposure to SARS in a wing of Bạch Mai hospital, for example, suggested to me that certain disease control imperatives could be handled with alacrity.

However, the health care system appears less well equipped to deal with the nation's burgeoning social and economic problems that impinge on health or translate into disease outbreaks. The rise of socioeconomic disparity and stratified access to education, clean water and sanitation, and healthy environmental conditions means that risk factors for diarrheal illness are rising for poor and vulnerable social groups. The strategies which once helped communities secure their health against cholera and related diseases – such as community sanitation mobilizations, education campaigns, mass vaccination, handwashing initiatives, and homemade use of oral rehydration solution – have been nationally deprioritized. This reinforces expensive, medically unnecessary recourse to antibiotics, intravenous rehydration, and other technical interventions.

Unpopular Theory 3: Environmental Causes

Amid the focus on food and "culture," virtually no research addressed the role of contaminated water could have played in causing the cholera outbreaks in Hanoi. Indeed, though a Vietnamese epidemiologist working for USAID told me that the head of the National Institute of Hygiene and Epidemiology had speculated that the Red River was the original cholera reservoir, this hypothesis never surfaced in print. However, as one scientist suggested to me, the prospect of a water-borne cholera epidemic was too challenging for the Vietnamese state to countenance, and therefore government scientists avoided the subject. Foreign news sources published the few articles addressing the possible role of water in the cholera outbreaks, and in Hanoi I found that it was almost exclusively foreigner specialists who were willing to discuss water pollution, flooding, or problems in the municipal treatment of water and sanitation as potential contributors to the cholera outbreaks. Indeed, the purported connection between cholera and the water infrastructure represented an opportunity for some foreign technical experts to buttress points they had long been struggling to articulate to the Vietnamese state.

Though the platform for these perspectives and their proprietary evidence was limited, the information drifted around. One set of water samples showed that cholera was present in surface waters in a number of Hanoi neighborhoods during the time of the outbreaks; the data were provided to me as photocopies by one scientist, prior to their publication in Tuan Cuong Ngo et al. 2011. Unofficial opinion about the potential role of water in the outbreaks could be found in blogs: an article by the Vietnamese-Australian scientist and blogger Nguyễn Văn Tuấn called "Water is More Important than Shrimp Paste!" stated that "the Ministry of Health was too strong-handed with shrimp paste, and neglected one different and important risk factor: the water source (Nguyễn Văn Tuấn 2007a). In July 2010, another Vietnamese blogger using the

pseudonym "Dr. Nikonian" wrote:

> The single most pressing and necessary movement is that you have to test the immediate water source in all the provinces and cities affected by cholera. Up to this point, I haven't yet seen a single publication of test results regarding the hygienic situation of all the tap water used for everyday purposes in Hanoi.[174] The more important thing is to struggle to impute the blame for shrimp paste and dog meat, *lá mơ* herb, paper money… and the many other different "culprits" that people can think of. For that reason, the principal culprit is the source of drinking water, and not just any different food product that has been thoroughly cooked. [Nikonian 2010]

Given the limitations on the production of scientific evidence regarding alternate hypotheses, it is impossible to demonstrate that water was a more significant risk factor than food or other sources. This absence is significant because it appears so studied: cholera is a primarily water-borne disease, diarrheal diseases remain prevalent in Vietnam, and tap water in Vietnam cannot be used for drinking or food preparation without being boiled first. In this final section, I assemble some of the evidence that was shared with me regarding the possible role of environmental water contamination, drinking water contamination, or wastewater exposure as factors in the cholera outbreaks.

Water and Sanitation

According to the World Health Organization, "Cholera can only be reliably prevented by ensuring that all populations have access to adequate excreta disposal systems and safe drinking-water" (WHO 1992:9). Vietnam's water and sanitation infrastructure has not kept pace with economic growth and urbanization, and in Hanoi as well as in other major cities, environmental and urban planning challenges are driving negative outcomes for public health. Indeed, the

[174] In fact, around the same time that this blog post was published, a set of findings on this topic been made public by the National Institute of Hygiene and Epidemiology. They concluded that water had represented not the original source of the outbreaks, but that it "play[ed] an important role after day 15" of all four cholera outbreaks from 2007-2010 (Trần Như Dương et al. 2010).

populational and environmental impacts of rapid economic development, combined with the low sectoral priority afforded to water and sanitation by Hanoi's city managers, have contributed to many empirically verifiable negative outcomes.

Although there is now a small international literature on how dog meat caused cholera in the Vietnamese outbreaks, there is still almost nothing in the way of scientific research or journalism addressing the potential role of contaminated water in causing the epidemics, despite the effectively ubiquitous association of this factor with cholera elsewhere in the world. In the first case, this appeared contra to common sense, especially given that tap water in Vietnam cannot be used for drinking without being boiled.

An official at the Centers for Disease Control suggested to me that the cholera outbreaks in Hanoi "started out as in a first-world country, i.e. they were spread by food – and then it got into the water system, as in a third-world country. That's why it was hard to control" (field notes, October 2009). While this model fails to explain how cholera entered the water system, and how it got into the food supply in the first place, it provides an interesting assessment of Vietnam's "development" along a teleological progression. This cholera story suggests that Vietnam is experiencing an "epidemiological transition" which places it newly at risk of "first world" disease emergence, but not yet out of the reach of "third world" public health problems linked to infrastructural weakness.

Without drawing conclusions about Vietnam's position in the continuum from "third world" to "first," it is possible to make some basic claims about the situation of urban water and sanitary provision. As many publications concur, rapid urbanization has stressed Hanoi's ability to provide its constantly increasing population with safe water and waste management. As a foreign technical advisor to a Vietnamese ministry put it, given the city's high population

density, the many open ditches and canals across the city, and a sewage system that is 100 years old and not properly maintained, "It's actually surprising there aren't more cases of cholera. Contact with untreated wastewater is actually more likely in the city than in the countryside. There are hundreds of opportunities to get in touch with it" (Personal communication, May 27, 2010).

Urban Water

Hanoi is situated in a bend of the Red River, whose delta branches to multiple provinces in North Vietnam. Its surface is covered with small lakes, but most of Hanoi's water supply is drawn from groundwater, a source which has been exploited for domestic and industrial use in the city since 1909 (Nguyen Van Dan and Nguyen Thi Dzung 2002:1). Though 97 percent of Vietnam's urban residents have access to "improved" water (Cogswell and Le Thi Anh Thu 2008:8), meaning water that has been treated at least somewhat, many city residents still use water supplied by private wells – a water source which is not regulated or tested. As an engineer working on a bilateral water provision project in Hanoi stated, "If it's clear enough to drink, people drink it. They treat it minimally if it all" (field notes, May 2010). Home wells draw water from levels that are particularly subject to contamination through leaching from septic tanks. Spot tests have shown drilled wells in Hanoi to be universally contaminated with organic pollutants beyond the permitted standard (Trinh Xuan Lai 2007:9).

The connection between contaminated water and ill health has ample precedent in Vietnamese public health: epidemiological data suggest that inadequate sanitation, exposure to wastewater, and inadequate access to clean water are associated with a substantial national disease burden. Interpreting water-borne and, particularly, diarrheal disease as a consequence of

national economic, environmental, and health policy put in place during Vietnam's transition, environmental economist Perrings points out that "[I]t is not coincidence that diarrhea and gastroenteritis are currently the leading cause of morbidity in hospitals, or that diarrhea is, after respiratory disease, the main source of child mortality" (Perrings 1998a:67). Statistics on Vietnam's human development outcomes in the early 1990s reflected the inattention of the transition's architects to health and social welfare.

> It is estimated that in 1996, 65 per cent of the urban population had access to clean drinking water, and 53 per cent had access to clean latrines. The problem is much more severe in rural areas where the communes are responsible for infrastructure. … [T]he evidence is that diseases related to contaminated water continue to grow. Between 1993 and 1995 the number of recorded cases of cholera and typhoid, for example, increased by 150 and 72 per cent respectively. [Perrings 1998a:64]

Perrings frames the inputs to these increased rates of diarrheal disease as the lack of public expenditure on the provision of clean water supplies and sanitation and nonregulation of sewage disposal/wastewater discharge. In Hanoi, there was no wastewater treatment whatsoever – a situation which still more or less persists (Perrings 1998a:63; field notes May 2010).

	Access to clean water			**Access to sanitation**		
	1993	**1998**	**2002**	**1993**	**1998**	**2002**
Urban households	58.5	76.8	76.3	44.9	60.1	68.3
Rural households	18.1	29.1	39.6	1.8	3.4	11.5
Total	26.2	40.6	48.5	10.4	17.0	25.3

Table 10: Access to Water Supply and Sanitation in Vietnam. Source: Curtis 2005:9.

Table 10 shows steady improvement in the rates of household access to clean water and sanitation over the last two decades. However, there has been rather little improvement in Vietnam's national health outcomes linked to water and sanitation. Waterborne diseases remain "widespread" in Vietnam, with over 250,000 cases of diarrhea registered at hospitals annually (USAID 2010:116). A 2008 report found that "Diarrhea-caused diseases and acute respiratory

infections have not reduced in recent years, suggesting a need to improve both hygiene and the water supply in Vietnam" (Cogswell and Le Thi Thu Anh 2008:7).

Exploitation of Hanoi's groundwater has begun to overreach the carrying capacity of the water table, a phenomenon which directly contributes not only to lowering the groundwater level but to increasing the pollution levels of the two main aquifers supplying the city (Montangero et al. 2007:56). Particularly, the high prevalence of private wells has contributed to the vulnerability of these aquifers: when perforated in many locations and drained too rapidly, aquifers become permeable to pollution in surface waters and surrounding soil (Nguyen Van Dan and Nguyen Thi Dzung 2002:3). Pollutants found at high levels in Hanoi's groundwater include nitrogen ammonia and fecal coliform (Nguyen Van Dan and Nguyen Thi Dzung 2002:5, Montangero et al. 2007:56).

Urban Sanitation

The demographic pressure on Hanoi's water and sanitary resources pushes individuals to seek options which, while rational and necessary for their individual households, are generative of potential public health risk, including large-scale cholera transmission, when they are practiced widely across the city. While water and sanitation facilities are only partially provided to the city's population, with some 65 percent of Hanoians enjoying access to sewerage services (Nguyen Viet Anh 2005:14)[175], approximately 88% of Vietnam's city residents have sustainable access to "improved sanitation" (Cogswell and Le Thi Anh Thu 2008:7). These conditions surpass those found in rural areas of Vietnam, but the urban infrastructure for treating waste and wastewater is still not comprehensive, a condition which may imply deferred and unpredictable public health risks. As a water and sanitation advisor pointed out to me, the question, from the

[175] 94 percent of Vietnam does not have central sanitation (Personal communication, Hubert Jenny, May 17, 2010).

perpsective of understanding potential exposure to water-borne disease, is "What happens to it afterwards?"

For the most part, nothing happens to black water and solid waste in Hanoi, as far as treatment is concerned. Hanoi's sewer system is "old and in disrepair and its hydraulic capacity is significantly impeded by solid wastes." (Nguyen Viet Anh 2005:14). To date, no sewage treatment plants have been built in Hanoi; the city's two pilot plants only have the capacity to treat 1% of the city's wastewater. This means that "most of the outfalls from the sewer system are seen as point pollution sources to the lakes and rivers in Hanoi both under dry and wet weather conditions. Point sources [from the sewer system] … were one of the largest potential sources of human faecal contamination" (Quan et al. 2010:47).

The sewer system itself in Hanoi represents only part of the civic sanitation infrastructure, most of which is modular and installed at the level of the household. Nationally, 77% of urban households in Vietnam have septic tanks, some of which discharge to the sewer system and some of which discharge to soak pits or open ditches (Collignon et al. 2011:27). Most households in Hanoi use septic tanks; in fact, a water and sanitation advisor at the Asian Development Bank told me, "Hanoi is *all* septic tanks!" (Jelle van Gijn, personal communication, May 19 2010). Septic system management is accomplished by a built-in septic facility, usually stored underneath a house. In households, septic tanks are often constructed under tile floors. To desludge a septic tank requires breaking the portion of the floor above the tank. If the house is not new, residents may not remember where the tank is, requiring the entire floor to be broken up (Collignon et al. 2011:33).

Household septic tanks are infrequently desludged, emptied, and cleaned in Hanoi, owing to the difficulty [etc] of doing so; a study found that "89.6% of septic tanks have never been

desludged in the past" (Harada, Dong, and Matsui 2008). This has potentially serious negative consequences for the environment: "If a tank is not regularly desludged, the sludge gradually fills the tank, leaving less and less space for anaerobic digestion and increasing the level of suspended solids and untreated sewage in the effluent discharged from the tank" (USAID 2010:4). Less frequent desludging may potentially cause more pathogenic sludge to be discharged into groundwater. In turn, this means an increased chance for sludge to seep and leaching into aquifers or well water, especially as there are "as yet no national laws governing the collection and treatment of septage" in Vietnam (USAID 2010:119). The latter would be particularly concerning because not only can toxigenic *Vibrio cholerae* survive in "an estuarine environment and other brackish waters" (Faruque et al. 1998:1308); it is also "capable of persisting for upward of three weeks in well water, given the right local conditions." (Sawchuk 2010:97).

The large number of potentially compromised septic tanks buried across the city is an even more pressing concern given that the sanitary carrying capacity of Hanoi is declining. In recent decades, Hanoi's ponds and lakes have been filled in and built over and ricelands and wetlands have been replaced by concrete; as a result, the city is less able to absorb rainfall. Further, the rate of groundwater abstraction has begun to overreach the carrying capacity of the water table, leading to land subsidence in some areas. Over-exploitation of groundwater causes lowering of the water table, "creating a cone of depression and a large hydraulic gradient" (Nguyen Van Dan and Nguyen Thi Dzung 2002:5). The increasing degree of pollution in Hanoi groundwater has required a new government policy emphasizing the use of surface water in Hanoi and Hồ Chí Minh City; in Hanoi, municipal drinking water will be drawn from the Red River (Hubert Jenny, personal communication, May 17 2010).

Some of the weaknesses of Hanoi's drainage capacity, and the risk posed by the high prevalence of septic tanks, became apparent in 2008, when a rainstorm lasting for several days inundated the city. A team taking water samples during the storm found that floodwaters were contaminated at levels that exceeded expectations, indicating the possibility that leaking septic tanks had released pathogenic matter into ground or surface waters. This suggested that the city's sanitary arrangements – featuring many unregulated wells and septic tanks, lowered carrying capacity, and land subsidence – set the stage for widespread exposure to contaminated water.

> Though diluted with a huge amount of rainwater, pathogenic pollution level was still considerable in inundated water. It was suggested that when inundation occurs, more pollution sources emerge such as from solid waste that had not been collected on the roads or from leaking septic tank systems. This information indicated the potential of human health risk to Hanoi residents when exposed to flooding water. [Quan et al. 2010:53]

Upon reviewing an article about groundwater pollution in Hanoi (Nguyen Van Dan and Nguyen Thi Dzung 2002) and the findings of Harada, Dong and Matsui (2008) on septage in Hanoi, an anthropologist at the Asian Development Bank suggested that the research

> (…) point[s] to a reasonably high probability that poor septage is one of the main reasons behind the growing groundwater contamination in Hanoi (in terms of high levels of faecal coliform in the city's two aquifers). This, in turn, could be responsible for the cholera outbreaks. [Nitish Jha, personal communication, May 18 2010]

Pollution of bodies of fresh water has been appreciating alongside urbanization in Hanoi. Almost all of Hanoi's wastewater, untreated, is "directly discharged into lakes, ponds, and rivers" (Quan et al. 2010:47). According to a study conducted in the late 1990s, West Lake was receiving untreated wastewater from Hanoi, and one out of three tested areas in the lake showed high levels of fecal pollution (Hoang Thi Nghia et al. 2001). In 2007, following the cholera

outbreaks in fall, "[V]ibrio cholera was found in Linh Quang Lake. (…) High values of total coliform in water bodies indicated high faecal contamination and implied poor treatment and maintenance in septic tank and direct discharge of black water." (Quan et al. 2010:50)
In case of flood, lack of sewage treatment/infrastructure leads to potential for cholera outbreak. (Hubert Jenny, personal communication, May 17, 2010). Given the potential for ground and surface water to be contaminated by bacteria from untreated septage or sewage, the use of city surface water for household or commercial purposes is a potentially risk factor for cholera (USAID 2008:121).

Rural agricultural practices represent yet another possible pathway for cholera exposure. Owing to the expense of chemical fertilizers, many North Vietnamese farmers use human waste to fertilize crops and irrigate agricultural fields and aquaculture with wastewater. If this is done improperly, fecal bacteria exposure can also occur via consumption of vegetables grown in this fashion: in peri-urban Hanoi, where wastewater is actively pumped from the Tổ Lịch and Kim Nguu rivers into agricultural production. As Marcussen and collaborators found, water spinach that is cultivated in this fashion is mostly produced with untreated wastewater (Marcussen et al. 2008), which is capable of transmitting cholera and typhoid **(**Dalsgaard 2001:28). These practices is illegal, but still widely used; a study has recently shown that it is cost-prohibitive for farmers to do otherwise, and "the economic benefits derived from free fertilizer outweigh the hygiene message for most Vietnamese farmers" (Jensen et al. 2010:2). An article in Việt Báo published in 2008 showed images of farmers washing commercial vegetables in an open sewer in Hà Tây, one of the areas believed to be a cholera "hot spot" (Ehara 2010).

As the above discussion demonstrates, multiple pathways could theoretically have facilitated the contamination of city groundwater or surface water with fecal bacteria. Cholera

bacteria in river water could potentially have leached into aquifers to contaminate groundwater; leaking urban septic tanks could have leached into groundwater, including public water and domestic wells. Untreated waste from the municipal sewer system could contaminate surface water and cause subsequent infectious exposure. A final potential pathway of contagion would be the cultivation of food using untreated excreta, a common practice in North Vietnamese agriculture.

These potential risk factors are underwritten by the state's lack of motivation to invest in the relatively water and sanitation sectors, which are neither glamorous nor potentially lucrative. Some observers suggested to me that this was because the state perceived these sectors as opportunities to attract foreign development aid, confirming the perception recorded over ten years prior:

> The World Bank conjectures that one reason that public investment in water infrastructure and preventive health care is such a low priority at the moment is that the government hopes to expand the existing water supply programme funded by UNICEF using aid from other donors. While a strategy of diverting public resources to areas less attractive to donors might well maximize aid income, it clearly does involve public health risks. [Perrings 1998a:64]

Inadequate centralization and limited coverage by the water and sanitation sectors have led to individual districts and households developing their own work-arounds. At the household level, these include the installation of home wells for drinking, cooking, and washing and the home treatment of water by boiling it for drinking or adding salt to soak vegetables. As far as home sanitation is concerned, most households install septic tanks for treating black water instead of connecting to the municipal sewer system, whose coverage is limited.

While this flexibility is rational and convenient for individual users and alleviates the state's responsibility for oversight and control, some technical experts suggested to me that this

decentralized infrastructural redundancy contributes to forms of vulnerability and risk. Without universal provision of basic environmental sanitation, individuals and institutions are forced to develop their own solutions for drinking water, sanitation, and waste disposal. In what one colleague qualified as "the territorialization of neoliberalization," (Hsuan Hsu, personal communication, April 20, 2012) these practices create porosity, flexibility, multiplicity, and redundancy to replace a harmonized, centrally directed system for water and sanitation. The replication of these individual interventions across a densely populated city proliferates opportunities for systemic vulnerability to risk and has a multiplicative environmental impact on surface water and groundwater resources. Finally, the environmental consequences of market transition, in combination with the reduction of investment into the preventive health sector, has consequences that are particularly serious for diarrheal disease epidemiology.

If the water and sanitary infrastructure of Hanoi is the driver of cholera outbreaks, this situation would be reminiscent of 1850s London – in which the pressures of urbanization drive poor public health outcomes, and the city's built environment functions as a concentrator and diffusion mechanism for contagion. This possibility is politically challenging insofar as it shows the "modern" city to be a medium for culturing an atavistic disease. A Vietnamese blogger drew the same parallel, concluding an article by comparing contemporary Vietnam to 19th century England:

> The experience from the large cholera epidemic in London in the 19th century showed that the water source is the principal "culprit" of the three large-scale epidemics in the community. There are many reasons for deducing that the cholera outbreak in our country could also proceed from a contaminated water source. [Dân Luận 2010]

This essay was also illustrated by a photograph of polluted body of water, with the caption "Lakes and rivers look like this, but cholera is because of dog!" (Dân Luận 2010).

The correspondence between cholera in historic London and in contemporary Vietnam, whether literal or merely metaphoric, reveals how a "free market with socialist characteristics" uniquely constitutes an environment of hazards for public health. Disinvestment in the public sector has had substantial negative consequences for the inputs to public health that matter most, including the health sector and the built environment. In urban centers, the contradictions of market transition have translated into environmental degradation and deregulation, which in turn has pressed individuals to create their own temporary solutions and assume the risks that accompany environmental exposures. In the public health sector, the increasing tendency towards disinvestment and privatization has driven health disparities, such that formerly well controlled diseases are now returning to threaten social groups who are insufficiently capitalized to insulate themselves from the risks of modern city life. Finally, politically sanctioned denial and enforced lack of information regarding national vulnerability to a previously vanquished disease allowed news of the cholera to be so tightly managed that it was impossible for the public to understand what the most significant risk factors for disease really were. From the point of view of a waterborne disease associated with "modernity," political economic turbulence, and widespread dispossession, post-transition Vietnam appears an exceptionally opportune situation to gain a secure foothold.

Speculating about the "True" Incidence of Cholera

In the absence of comprehensive and reliable data on the scope of the cholera epidemics, I turn to informed speculation, much as the Vietnamese and foreign press did in response to the failure of state agencies to generate a persuasive model of causality. Without being privy to epidemiological data tabulation and verification in Vietnam, I nonetheless heard both insiders

and outsiders question the accuracy of such data and the methods by which they were produced. Foreign researchers in Vietnam frequently commiserated over this topic, saying things like "Government statistics aren't worth the paper they're published on" – an observation that neatly folded a critique of the state and an expression of ethnocentric superiority into the expression of a desire for more objective data. Some Vietnamese researchers also shared critical commentary with me regarding the state's methods of data production, suggesting that the old command-economy ethic of the socialist period still held over:

> _____ shows me the infectious disease yearbook for 2008. He tells me some of the numbers are "bullshit" (speaking English) and the numbers for communicable diseases are generally much the same, year to year. "They" decide in advance what the numbers will be. [Field notes, May 2010]

My review of available data published in journal articles, media reports, and health notifications, led me to believe that the "sensitivity" was seriously compromising the reporting of outbreaks. Based on my own field data, it appears that the total number of confirmed cases reported by the Ministry of Health probably represented a low estimate of the actual scope of the epidemics. The media followed the health agencies in generating uncertainty and misdirection, creating confusion by using the terms "acute diarrhea" and "cholera." The former was the governmentally preferred but epidemiologically meaningless term for clinical cholera occurring during a confirmed outbreak. As the observations of other researchers suggested, official sources were not credible, but the degree to which they varied from an accurate description of actual events is indeterminate.

> _____ emailed: "I've recently started working with a woman at NIITD who told me that right now there are 70 confirmed cholera cases in her hospital." The same day, *Tuổi Trẻ* published the following:
>
> "According to Mr. Nguyễn Hồng Hà, the vice director of National Institute of [Infectious and] Tropical Diseases, the number of acute diarrhea patients hospitalized has risen in recent days. Counting from June 28 to July 7, there were

135 patients with diarrhea hospitalized; the first round of tests had 45 cases testing positive with cholera." [Tuổi Trẻ 2010; field notes, July 2010]

As a result of the inaccessibility of complete sets of official epidemiological data, one goal of my field interviewing was to determine the extent to which respondents reported cases of cholera in their own households and among their neighbors. The following table summarizes my findings in four city districts.

District	Cholera in family/ward	Cholera in neighborhood (ward)
1 Hai Bà Trưng	1: Quỳnh Mai	2: Đồng Mác, Bạch Mai
2 Hoàn Kiếm	2: Hàng Bồ, Hàng Gai	1: Hàng Bạc
3 Hoàng Mai	1: Định Công	7: Đại Kim 3, Thịnh Liệt 2, Tương Mai 2
4 Long Biên	2: Đức Giang, Ngọc Lâm	0

Table 11: Cholera prevalence by district and ward according to interview findings. The table shows positive responses to interview questions "Has anyone in your family had cholera?" and "Has anyone in this district had cholera?"

My sample of one hundred and eighteen interviews is not representative for a city the size of Hanoi, and therefore I am not suggesting that these rates of cholera prevalence are generalizable across the districts where I conducted interviews or for the entire city. However, if these rates *were* representative, the number of positive responses to the question "Has anyone in your family had cholera?" would indicate epidemicity far larger than official reports of confirmed cases in recent years had suggested.[176]

As the table above shows, I also asked respondents if they were aware of cases of cholera in the neighborhood. Though respondents often noted that they were unqualified to judge the potential prevalence of cholera among neighbors or in the surrounding area, given their lack of knowledge of other households, many respondents were aware of cholera cases that had occurred recently in their ward or in neighboring wards, and were able to provide details.

The Tổ Lịch river used to run near here; now it has pooled. It has become

[176] Though the question does not specifically limit respondents to mentioning only cholera episodes that occurred in the period 2007-2010, respondents generally indicated that the cholera episode had taken place recently.

> polluted because people bring trash down there and dump it. Now it's a lot better, but it's still an area of low-lying land (*vùng đất trũng*), so stagnant water from the city floods down here whenever it rains. As a result there are frequently contagious diseases here in this area; there is a high risk of disease. Last year there was cholera, not in this area but in some neighborhoods below here; some people had cholera. Sub-ward (*tổ*) number 21 had someone; *tổ* 18 had someone. – Lê Thị Minh Tâm, female, 57 years old, Hoàng Mai district, Yên Sở ward, 12 March 2010.

In 118 interviews, I recorded a total of six cases of cholera and ten cases of neighbors with cholera. In the below table I extrapolate from these data a hypothetical "case count" for each district where interviewing was conducted, based on these rates. District "case rates" are calculated at the rate of one "yes" response per 30 households (Hai Bà Trưng), one "yes" per 29 households (Hoàng Mai), two "yes" responses per 30 households (Hoàn Kiếm), and two "yes" responses per 29 (Long Biên). Cases of neighbors reported to have experienced cholera or cholera-like symptoms are not included in these hypothesized "case counts," which I place in quotes to indicate that given the small interview sample, these rates are not generalizable. Particularly, given the disparity between the average age of my interview population and the average age of the population of Hanoi, it would be unrealistic to extrapolate from my data to the city at large.

Nonetheless, the "case rates" drawn from samples in my interview districts would be as such: 3.3 per 100 people (Hai Bà Trưng district); 6.6 per 100 people (Hoàn Kiếm); 3.4 per 100 people (Hoàng Mai); 6.9 per 100 people (Long Biên). As projected to hypothetical "case counts," this provides a sense of how surprising it was that six households out of 118 had experienced cholera. These rates are far higher than the maximum case rates reported in fall 2007[177]. Official sources reported a total of 8,064 clinical cases of cholera from October 2007-December 2009, not all of which were in Hanoi (Trần Như Dương et al. 2010a:3). Therefore,

[177] Maximum reported incidence was 12-14 cases per 100,000 people (see Figure 16).

the disparity between the total reported cases and my (ungeneralizable) projection is remarkably large. The potential "total case count" for the four urban district where I generated hypothetical "case rates" based on my interview sample add up to 49,483 cases of cholera: a figure over six times larger than the total number of cases counted during the two-year period prior to my interviewing.

If these "projected total cases" were to represent the true burden of cryptic disease, it would indicate a much higher factor than Mead et al. (1999) suggest in their article on the underreporting of cholera, in which they recommend using a multiplier of two to correct for underreporting. In the context of the United States, food safety researcher Patty Lovera (2011) has suggested that according to some research, food poisoning has an even larger cryptic epidemiology compared to the number of cases that are reported: "[F]or every person that makes it into the system and gets counted as being sick, that up to 35 or 40 people might not have gotten counted, because they (…) toughed it out at home" (Democracy Now 2011).

In Vietnam this multiplier to account for cryptic cases might presumably be even higher, given that "foodborne illnesses have been considered to be the most widespread public health problem and the second leading cause of illnesses and mortality, even though they have been highly underreported" (Pittisuttithum 2007:726). As findings by Lương and collaborators showed, poor families' tendency to self-treat diarrheal illness, no matter how severe (Lương et al. 2007), suggests that mild cholera symptoms might receive treatment at home with antibiotics rather than being referred to medical care. Though my respondents typically agreed that cholera was a serious disease requiring medical attention, their responses also indicated that in practice the distinction between cholera and severe diarrhea would be challenging to establish. Further, respondents indicated that the first resort in case of severe diarrhea would be self-treatment, not

referral for medical attention.

ML	How can you tell that a case of diarrhea has become serious and you need to go to the hospital?
Ông Phương	If you go many times in one day it's serious. The old people call that "vomiting and diarrhea" (*thổ tả*), going a lot.
ML	How many times is 'a lot'?
Ông Phương	Two times. Take medicine and it's cured.
ML	Can you successfully self-treat diarrhea at home (*Có tự chữa được tiêu chảy ở nhà không?)*
Ông Phương	I do self-treat diarrhea. Because it's not serious, if you're going like that you just take two pills and it's done. Here, just two of these, this Indian thing or whatever it is (*showing a box of antibiotics*). – Nguyễn Văn Phương, male, 78 years old, Hoàng Mai district, Tương Mai ward, 8 March 2010

In consideration of the high likelihood that many cases were underreported, (owing to non-referral or miscategorization), even if the cryptic case rate had been far smaller than the hypothetical "case rate" presented above, I believe it is reasonable to suggest that the true incidence of cholera was larger than official reports suggested. Given the many factors suggesting cryptic (untreated, undiagnosed, or unreported) cases of cholera during the outbreaks in Hanoi, I suggest it would not be altogether unexpected if the true incidence of cholera during the outbreaks was at least this great. While it is challenging to speculate about the motivations that may have contributed to structuring the impression of a smaller epidemic, it appears that the differential between actual cases and reported cases sheds light on the national image that leaders of Vietnam wish to project to themselves, to citizens, and to the world community.

Agnotology in the Time of Cholera

When I began research on the cholera outbreaks in Hanoi, I rather hubristically imagined

that I would easily find evidence to support my hypothesis connecting cholera with the socioeconomic disparities produced by market transition. Over the course of research, this fantasy of a conclusive Q.E.D. was slowly replaced by a more nuanced perspective on what was possible to demonstrate. In the periods between getting what could be considered "data" to fill the spaces in my initial, positivist framework – another issue of the infectious disease yearbook, an appointment to talk to someone, or permission to begin interviewing in a district – I turned up other things that made me curious.

At the same time, I found that terms that I had initially regarded as self-evident were disintegrating under scrutiny. After being confronted by the lack of demographic or geographic data documenting urban poverty, research and conversations with specialists helped me establish that poverty in Vietnam – and, indeed, anywhere – is extremely challenging to define, and that poverty studies literature is marked by disagreement over what objective indicators can be assumed as reliable indicators for "poverty." And that it is, in practice, often fixed by methods that are partly subjective and provisional. Further, from the dynastic period to the modern period, demographic and epidemiological data from Vietnam are filled with statistical uncertainties, roughness, and aporia, with the resulting methodological innovations for area studies scholars producing only approximated impressions of the country's population and national public health. Finally, as I discuss in Chapter Three, the case definitions and resulting case counts of cholera in Hanoi during the period 2007-2010 were also indeterminate, partially because of the secrecy that surrounded their particulars, but also because the methods used to track cholera cases appeared designed to minimize the appearance of a serious disease event. Given these complications, it remains difficult to generalize about the epidemiology of cholera in Hanoi. The murkiness surrounding key terms began to lead me away from my straightforward

original premises, allowing me to consider the usefulness of more interpretive, impressionistic kinds of claims-making.

What these uncertainties ultimately made room for was agnotological inquiries. Agnotology is the study of the social life of ignorance: as historian of science Londa Schiebinger writes, "Agnotology refocuses questions about 'how we know' to include questions about what we do not know, and why not. Ignorance is often not merely the absence of knowledge but an outcome of cultural and political struggle" (Schiebinger 2007:3). Ignorance marked my research despite meticulous attempts to render the epidemics legible in time and space: collating and tabulating case counts in Excel tables, cross-referencing epidemic data, reviewing interdisciplinary literatures from biology to urban planning, and pressing respondents to share as much information as they could. Despite the steady accretion of facts and opinion, I had to admit that what was empirically knowable about cholera in Hanoi was outweighed by what was not knowable, and I wondered more about the grammar of the silences, absences, and pauses in conversations that were the constant counterpart to data and language.

One observer of the early months of the 2007 cholera outbreak argued that what circulated publicly about the cholera outbreaks was "science lacking information, and information lacking science" (Nguyễn Đình Nguyên 2007). While this view casts state science as ignorance masquerading as information, I arrive at a less positivistic conclusion. Discourse about "cholera," even when it created amorphous and spreading blank spots, demonstrated the power of the state to designate a social issue "sensitive" and withdraw from the project of representing its details. Alternative notions of cholera's causality rushed into the vacuum. As time progressed from outbreak to outbreak, some cholera narratives eclipsed others and came to be accepted as common sense, while others spiraled in obscurity. As I have speculated, this is

the result of cholera's deprioritization as a disease which represents the social, political, and economic problems that align with the state's representational agenda.

Without meanings demarcated by biomedical or epidemiological analysis, the project of resolving what cholera "is," what caused it, and what it represented remained contested. As I have suggested, cholera represents an intersection: a place for politico-moral forms of reasoning and belief to be articulated as supplement and counterpoint to official statements of medical and scientific authority. Discourse about the disease was not only a space for claims-making, but also an opportunity for the enactment of power relations. The state's biopolitical discourse and silences about cholera demonstrated the political significance of health in post-transition Vietnam, with state accounts of cholera scapegoating socially powerless actors in the name of "civilization" and attempting to minimize damages to the national economy. Meanwhile, other interpretations of the disease and its meaning could only be expressed as unsanctioned forms of speech: blogs, gossip, rumor, and invective. In those venues, the word "cholera" signified not only enteric infection, but a critique of the state.

From a more materialist perspective, I have speculated that the reemergence of cholera in North Vietnam is associated with the withdrawal of resources from the form of public health infrastructure that was established under socialism, and that it may also be associated with urban poverty at the level of the district in Hanoi. More broadly, I have speculated that market reform in Vietnam can be conceptualized as a political economic and demographic shift continuous with previous experiences of war, colonization, and mass population displacement in the region. Under this economic regime, Vietnam's health care system, its poverty assistance programs, and its water and sanitation infrastructure have been partially privatized, receiving only patchy state investment; simultaneously, urban populations have boomed.

These associations would be unsurprising, given the general association of cholera with the physical and environmental conditions that accompany social turbulence. What is unique about this case, however, is the way in which cholera was also "caused" by language and by silence: undercounting cholera, misidentifying it, and misrecognizing its causes helped occlude the features of the epidemics, the most important risk factors for disease, and the steps that state agencies, as well as households and individuals, could take to prevent the the recurrence of future outbreaks. While these opportunities were mostly missed in the most recent series of epidemics, it seems entirely likely that there will be others in the future.

Appendix 1: Interview Sites in Hanoi

Hanoi is internally subdivided into "districts" (*phường*), some of which have long belonged to the city and others of which have been assimilated into its jurisdiction more recently. During field research, I conducted formal interviewing with city residents in their homes in four districts, Hai Bà Trưng, Hoàn Kiếm, Hoàng Mai, and Long Biên. Following are brief descriptions of each.

Hai Bà Trưng District

Hai Bà Trưng district is named for two female military heroes, the sisters Trưng Trắc and Trưng Nhị, who led Nam Việt in three years of rebellion against a Chinese invasion in AD 39. Located south of the city center, it contains 19 wards, a population of 378,000 (the city's largest district), and a population density of 25,890 people per square kilometer. The wide Haussmannized boulevards, retail towers, and glossy facades in some parts of Hai Bà Trưng district suggest that the area has drawn substantial foreign as well as domestic investment: the district's business developments include the Hanoi Tower, an upmarket enclosed shopping mall (Vincom City Tower), hotels operated by foreign corporations, numerous hospitals and universities, and the headquarters of the United Nations Development Program.

The rate of new cases of tuberculosis in Hai Bà Trưng district suggest that it is at least a moderately poor district, however, and a friend of mine who lived in the area pointed out some other aspects of the downtown district by taking me to visit Hai Bà Trưng's "sky market" (*chợ giời*), a claustrophobic, seedy zone of down-market commerce. A walk to the alleys off the wide boulevards revealed city block-sized warrens of small and tightly packed accommodations.

Though the circumstances of families in the district varied widely, some families I interviewed were living in homes that felt both tiny and poorly maintained despite their proximity to brand new development. Lê Thị Nga, a 34-year-old woman with a husband and child, had a house measuring only 7.2 square meters. Another mother in the district complained to me about the effect of pollution on her child's health:

Chị Trinh	He often has respiratory inflammation. He's often sick. His tonsils are swollen all the time, his lungs; his ears nose and throat all the time. (…)
ML	What's the source of your child being sick like that?
Chị Trinh	The humid atmosphere, the environment, the dust.
ML	Is it very dusty here?
Chị Trinh	Very dusty, the motorbikes make it dusty and dirty. – Nguyễn Thị Mai Trinh, 33 years old, female, Hai Bà Trưng district, Đồng Nhân ward, May 12, 2010.

Figure 12: Nguyễn Thị Nguyệt, 54 years old, at home. Hai Bà Trưng district, Đồng Nhân ward. May 12, 2010. Photograph by author.

Hai Bà Trưng district reported 32 cases of cholera in the fall 2007 outbreaks – the largest single total of any district – or 17.1 percent of the total confirmed cases. In my interviews with 30 families, only one family mentioned having experienced cholera infection, and two families mentioned that it had occurred in a neighborhood household.

Hoàn Kiếm District

Named for the scenic lake in its center, Hoàn Kiếm is considered Hanoi's most historic and picturesque district. As such, it is also the most heavily touristed part of the city, and serves as the decorative backdrop for state holidays and civic celebrations. It is home to numerous cultural establishments – the French-constructed Opera house (*Nhà Hát Lớn*) and Cathedral (*Nhà Thơ Lớn,* built on the site of the 12th-century Báo Thiên pagoda) as well as many historic Buddhist sites: 11th-century Chùa Bà Đá, the Đền Ngọc Sơn (Pearl Mountain Temple), Tháp Rùa (Tortoise Tower, sited on an islet in Hoàn Kiếm lake) and a remaining column of the Chúa Báo Ân, which was razed by the French in 1888 to make room for the city post office. To the west, Hoàn Kiếm district abuts the Citadel, built in 1010 and serving today as the headquarters of the Vietnamese People's Army. South of the most heavily trafficked districts are the the headquarters of the national radio station and the Cultural Friendship Palace (*Cung Văn hóa Hữu nghị*), built in 1978 with Soviet architectural input.

Figure 13: Hòan Kiếm Lake, among the capital's main tourist attractions and the "symbolic heart of Hanoi" (Thomas 2001:308). Tortoise Tower (*Tháp Rùa*) is in the background. Photograph by author.

Hoàn Kiếm district contains 18 wards and a population of 178,073. In the downtown Old Quarter (*phố cổ*), the district's population density is 84,000 per square kilometer, among the highest rates of residential crowding in the world. Though the proximity of markets, commerce, and other amenities and opportunities makes living in Hoàn Kiếm appear attractive to residents in other parts of the city, just as the city appears economically advantaged in comparison to rural districts, everyday living conditions in the city center may be objectively uncomfortable. Particularly, accommodations near Hanoi's center are often very small, easily overcrowded and inadequately maintained. Many areas are also polluted and noisy, owing to the high concentration of diverse types of traffic and commerce. Two families I interviewed in the district reported having suffered cholera infection, and one family reported a neighboring family's infection.

ML Around this area, do you feel it's crowded, loud, dirty, or uncomfortable?

Cô Mai Of course it's a headache living on a tinsmith's street.[178]

ML Does [the noise] affect you indoors?

Cô Mai Yes. But I'm used to living like that. In the old days my husband also worked as a tinsmith; I accepted it. They only beat the metal for a bit. At night it's quiet. My husband had to work in the house; I just accepted it, what else can you do? I'm used to all that now. – Vũ Thị Bích Mai, 63, female, Hoàn Kiếm district, Hàng Gai ward, August 24, 2010.

ML Around this area, do you feel it's crowded, loud, dirty, or uncomfortable?

Ông Sơn Of course it's crowded around here, because our house faces right onto the street. And noisy, that too.

ML Is it dirty or dusty?

Ông Sơn Dusty, yes, of course – it's a road! The road is dusty, we live all cramped up, and use a common toilet; in general, things are often very dirty. For many years the state hasn't repaired anything. We rent a house from the state, and in the old days every ten years the state would come and repair these "grade four" (*nhà cấp bốn*[179]) houses. Now it's been dozens of years and nothing's been fixed. That's why we fix things ourselves, but many things about the house are dirty because the labor is shared in common. There are many households living here. – Trần Xuân Sơn, 82, male, Hoàn Kiếm district, Hàng Gai ward, August 24, 2010.

Hoàng Mai District

Hoàng Mai means "yellow apricot" in Sino-Vietnamese, a romantic reference not borne out materially in this district southeast of downtown Hanoi. Hoàng Mai was brought under the administrative umbrella of Hanoi in 2003 and still feels slightly rural. It contains 14 wards and a population of 329,000, with a comparatively low population density of 8,017 people per square

[178] Hoàn Kiếm's Old Quarter district is famous for its thirty-six traditional artisanal streets, many of which are named for the wares that were historically produced and sold by resident guilds. This family lived near Hàng Thiếc, a historic metalsmithing street.

[179] Housing in Vietnam is officially classified as belonging to four categories. Grade four is the worst.

kilometer. "Poor" by popular reputation, it contains a smattering of light industry, no cultural destinations that are ever remarked on, and the under-resourced District Health Center (*Trung tâm Y tế Quận*) was the smallest, coldest, and plainest of the five I visited, fronting what appeared to be an informal cemetery.

Though health stations across Vietnam are generally at least somewhat unluxurious, the health stations in Hoàng Mai were exceptionally small and undermaintained. The bathrooms at commune health stations in Hoàng Mai district (lacking soap, toilet paper, and a toilet) disgusted my research assistants, who usually accepted the very basic amenities at the institutions we visited. Two health stations in Hoàng Mai fronted the Kim Ngưu river, an urban waterway so thoroughly polluted that the stagnant water was black. An elderly man commented on the river's oppressive atmosphere in an interview in Mai Động ward, where he lived with his chronically ill wife, their daughter, and her two children in a narrow two-room house fronting a heavily trafficked road.

ML	Around this area is there anyplace that is polluted?
Ông Quang	There's that sewer out there. If you go in there there's the edge of the sewer canal there, that's a branch of the Kim Ngưu river there.
ML	Is that place always like that?
Ông Quang	It's always like that, it flows all year. The water flows from the village out to the river Kim Ngưu, when it's coming up to summer it really smells.
ML	Does that stream affect the health of everyone in this area?
Ông Quang	Of course it does, from here to there is around 500 meters but in summer the wind blows, then that atmosphere [comes here]; everyone underneath this sky is breathing polluted air. – Đỗ Văn Quang, 80 years old, male, Hoàng Mai district, Mai Động ward, March 5, 2010.

Figure 14: Dredging on the Kim Ngưu River, Hoàng Mai district, immediately across the street from a health station. Photograph by author.

More remote wards in Hoàng Mai district, rather than benefitting from the ostensibly healthier rural environment, also experienced environmental stress associated with development and urbanization. As the below interview excerpt with Mr. Trung showed, part of the piped water in the area was municipally dispensed while other users relied on a local water station or their own wells. Mr. Trung also noted how infilling of ponds, a common phenomenon in semi-rural and urbanizing areas of Vietnam, had contributed to environmental pollution. Finally, he remarked on the presence of temporary renters – rural-to-urban migrants – whose substandard housing put them and the surrounding community at risk for infectious disease. We were sitting on low plastic stools in the alley that led up to the small buildings and courtyard where he, his wife, and his parents all lived; the tape is filled with background noise from vehicles passing in the street just a few feet away.

ML	In your area is there anyplace that's polluted?
Anh Trung	Generally now, in this period, it's half country and half city; it's developing, so it's pretty polluted.
ML	What kind of pollution?

Anh Trung Several things, like water for daily activities (*sinh hoạt*). Running water isn't as "guaranteed" (i.e. hygienic) as clean water because the water that is supplied for the people here is water from the wells that people bore themselves, they make their own tiny little water pumps, so it's not guaranteed as clean water from the factory. There is an area on this side where they use clean water from Hanoi and it's better, but the area on this side they still use water from the 'mini station' (*trạm mi ni*). There are some people in the area who bid on contracts, so probably the issue of treatment [of water] is not as good as Hanoi's.

ML Apart from water is there anything else?

Anh Trung There's a lot, but in Vietnam we have to accept it, because that's the general situation. My house is here; when they give advice from the Ministry of Health about prevention during one period or another during the year, then naturally I have to protect myself. I use some things [that they suggest], but [I also apply some] health advice that I believe to be good.

ML Before, when this area still didn't belong to Hanoi, was it also polluted, was it more open?

Anh Trung In the old days it was less [polluted] because there were many lakes and ponds, now the native people just a little less than one half of the people here, and the rest are people who are renting, then they're here year-round, and only go back to their home town a few days at *Tết*. So the area's living [activities] have people renting with conveniences that aren't like my/our house (*tiện nghi không được như nhà mình*) and the hygiene is poor, many times there is a disease outbreak of some sort that begins there first, then spreads around, there are a lot of renters here.

ML The places where people are renting usually get what diseases?

Anh Trung For example in a year they often warn that there are two outbreaks, cholera and dengue fever like last year. Afterwards then it spreads to the people's houses, if anyone doesn't hear the warnings and doesn't individually prevent those diseases then they'll be infected. – Phạm Vũ Trung, male, 38 years old, Hoàng Mai district, Thịnh Liệt ward, March 3, 2010.

Hoàng Mai district was the second most heavily affected part of the city during the fall 2007

cholera outbreaks, with 30 confirmed cases of cholera reported. One family I interviewed reported having suffered cholera; seven families reported that a member of another household in the ward had been infected with cholera at some point recently.

Long Biên District

Middle-class Hanoians consistently name Long Biên (Dragon Fin) district as one of the poorest in the city. Because it borders the Red River, where boat-based households have established informal settlements on a sandbar, the entire district is popularly believed to be inhabited by socially marginal communities who make their living in riverside shack-style accommodations. Long Biên district is also indicated by recent poverty maps as belonging to the bottom quintile for prevalence of low-income households (Gubry et al. 2009:2).

However, the six wards I visited in Long Biên appeared spacious, orderly, and pleasant, with large and comfortable ward health stations and tranquil ponds in front of well-preserved traditional communal assembly buildings. The "poor" families I visited in those areas, even if economically on par with their counterparts in reputationally "wealthy" Hoàn Kiếm and Hai Bà Trưng districts, enjoyed an environment of greater stability and cohesion, more physical space[180], and less traffic, pollution, dust, and noise than in the center of town.

> The people are very pleasant and calm here (*dân rất thuần tính*) and some of them are quite cultured (*có văn hóa*). The environment is also rather quiet. It's not very dirty. – Lý Thu Hương, 42 years old, female, Long Biên district, Sài Đồng ward, 11 August 2010.

However, heavy industry appears to be more developed in Long Biên than in the central urban districts, and some residents complained about the effects of nearby manufacturing interests on living conditions:

[180] Space is at a premium in Hanoi residences: between the 1950s and the 1990s, the average per-person living space in Hanoi dropped from six to four square meters (Drakakis-Smith and Kilgour 2001:232).

> There is a factory (*xưởng*) near there where they make cars, it's from the Mitsubishi factory, so it's often loud during the afternoon, and as a result there are waste products, lubricant often accumulates in the drain and creates a smell, which often comes into the house. – Nguyễn Thùy Trinh, female, 29 years old, Long Biên district, Gia Thụy ward, July 29, 2010.

The district's population is 200,000, with a population density of 2,827 people per square kilometer. The western portion of Long Biên, bordering the Red River, is vulnerable to environmental stresses like floods and pollution. However, despite the potential socioeconomic as well as environmental predispositions to to the spread of a water-borne disease, Long Biên was not – as I learned mid-way through fieldwork – among the districts that reported numerous cholera infections in the 2007 outbreaks. Only one case of cholera was reported in Long Biên during fall 2007, but two families I interviewed in the district reported having suffered cholera recently.

Figure 15: Wastewater draining to the Red River, Long Biên district. Source: Luong Thi Ngoc Ha 2010.

Figure 16: Xuân Đỗ Hạ communal house (*đình*), Long Biên district, Hanoi. Source: Ministry of Culture, Sports and Leisure 2011.

Appendix 2: Using Tuberculosis Rates in Hanoi to Locate Urban Poverty

In the absence of official data on urban poverty, I sourced recently published data[181] (2004-2007) on district-level tuberculosis (TB) incidence and used them as a proxy measurement for spatially disaggregated poverty rates in Hanoi. Tuberculosis is associated with poverty, malnutrition, and residential crowding (Drucker et al. 1994), and rates of infection can therefore be used as a proxy indicator of socioeconomic conditions. In Vietnam, as one American health official, a tuberculosis expert, noted to me, "TB interdigitates with society, government, and medicine even more than cholera" (field notes, October 2009).

Official data on TB help illustrate the spatial prevalence of poverty because treatment is linked to a patient's place of residence: throughout Vietnam, positively diagnosed individuals are eligible to receive free chemotherapy according to the WHO-recommended "Directly Observed Treatment, Short course" (DOTS) protocols at the hospital that houses the TB program for the urban or rural district where their residence is registered.[182] As the Vietnamese colleague who supplied me with these data suggested, in the absence of more detailed official information regarding the geography of urban poverty, analyzing tuberculosis epidemiology is therefore a potentially useful way to recognize patterns of urban poverty – if urban poverty is defined by malnutrition, residential crowding, and sub-optimal social conditions. Though the development of tuberculosis incidence data depends on symptomatic individuals referring themselves for diagnosis rather than more comprehensive population-based epidemiological surveillance (Horie et al. 2007:562), tuberculosis rates may nonetheless provide an overview of the relative

[181] These Annual Data reports published by the National Hospital of Tuberculosis and Respiratory Diseases were provided to me by a friend at Hanoi's National Institute of Hygiene and Epidemiology (NIHE). For geographic data on the incidence of tuberculosis in individual wards of Hanoi, I consulted the annual reports on "New Smear-Positive Patients, Per District, Per Quarter." When I consulted the Health Attache of the US Embassy in Hanoi informally regarding this method of approximating urban poverty rates, he agreed that it appeared sound.

[182] Globally, Vietnam is among the 22 countries with the highest burden of tuberculosis (Horie et al. 2007:562) and tuberculosis reduction is a priority for the Vietnamese state (Nguyen et al. 2010).

distribution of poverty across the city, owing to the administrative procedures for treating tuberculosis outpatients. Given that the symptomatology of tuberculosis is often severe, and that treatment is provided free, it seems reasonable to expect that the majority of symptomatic patients would refer themselves for evaluation, receive a correct diagnosis, and receive treatment. However, it cannot be assumed that these data constitute a perfect representation of poverty, given that nationally, the reporting rates of tuberculosis are low by international standards (Horie et al. 2007:562), that poor people with suspected tuberculosis in Vietnam often delay seeking care for socioeconomic reasons (Luong et al. 2007:584), and that tuberculosis incidence data, like data sets on poverty in Vietnam, do not capture rural-to-urban migrants – or, as it is called in China, the "floating population" (Zhang 2001) – owing to the state's residence-based approach to administering health and other benefits.

Nevertheless, these data shed light on the environmental and socioeconomic conditions of relatively small geographic areas of Hanoi, both rural and urban. And although they would fail to capture the potential population of symptomatic patients who sought private treatment for tuberculosis, those individuals would first of all probably not be numerous, and secondly, they would be significantly less likely to be poor. Therefore, the absence of privately treated tuberculosis patients from the figures below would probably not strongly impact the value of citywide tuberculosis data as a proxy for poverty.

To compare the incidence of tuberculosis in Hanoi districts, I generated average rates of tuberculosis incidence per district from 2004-2007, using available district-level population data,[183] comparing the case rates of tuberculosis incidence per 1,000 people in each district of Hanoi, and averaging the rates over four years. This allowed me to compare case rate averages of tuberculosis incidence across urban districts. Assuming that more tuberculosis is equivalent to

[183] Source: People's Committee of Hanoi 2009.

more poverty, I ranked districts from “poorest” to “richest”; higher figures in the table below indicate the presumption of a higher prevalence of poverty.

	District	New Case of Tuberculosis per 1,000 People
1	**Ba Đình**	1.4057
2	**Hoàn Kiếm**	1.6061
3	**Hai Bà Trưng**	1.4894
4	**Đống Đa**	1.1932
5	**Tây Hồ**	1.1636
6	**Cầu Giấy**	1.1905
7	**Thanh Xuân**	0.8973
8	**Từ Liêm**	1.2375
9	***Thanh Trì***	1.2780
10	***Gia Lâm***	1.4127
11	***Đông Anh***	1.4670
12	***Sóc Sơn***	0.9921
13	**TB Hospital**	N/A
14	**Long Biên**	1.7223
15	**Hoàng Mai**	1.5119

Table 12: Geographically Disaggregated Tuberculosis Prevalence: Average Number of Reported New Smear-positive TB Cases per 1,000 People, per District, Per Quarter of Hanoi, 2004-2007. (Italics indicate a rural district.)

At the outset of my research, I had drawn on media reports from 2007-2008 to infer that Hai Bà Trưng and Đống Đa districts were particularly heavily affected by cholera, and therefore I planned to conduct interviews in those districts. These data on tuberculosis, as well as the input of university colleagues, helped me select two more urban districts, Hoàng Mai and Long Biên districts, for household-level interviewing. I had hypothesized that this would shed light on some of the most parts of the city most heavily affected by cholera, and that this range of sites would cover enough physical ground to capture successfully the environmental and socioeconomic diversity contained within urban districts of Hanoi. These data on tuberculosis helped substantiate my sense of being able to capture a wide range of household circumstances. Receiving additional information regarding the spatial distribution of cholera retrospectively helped substantiate my site selection; the sample contained both districts with high and low case counts.

District	Rate of TB per 1,000, 2004-2007	Poverty Rating
1 Hai Bà Trưng	1.4894	Second poorest quintile
2 Hoàng Mai	1.5119	Second poorest quintile
3 Hoàn Kiếm	1.6061	Poorest quintile
4 Long Biên	1.7223	Poorest quintile

Table 13: Districts Nominated for Interviewing and Poverty Rating Based on Respective TB Prevalence Rates.

Appendix 3: Assessing the Reliability of Tuberculosis Data as a Proxy Measurement for Urban Poverty

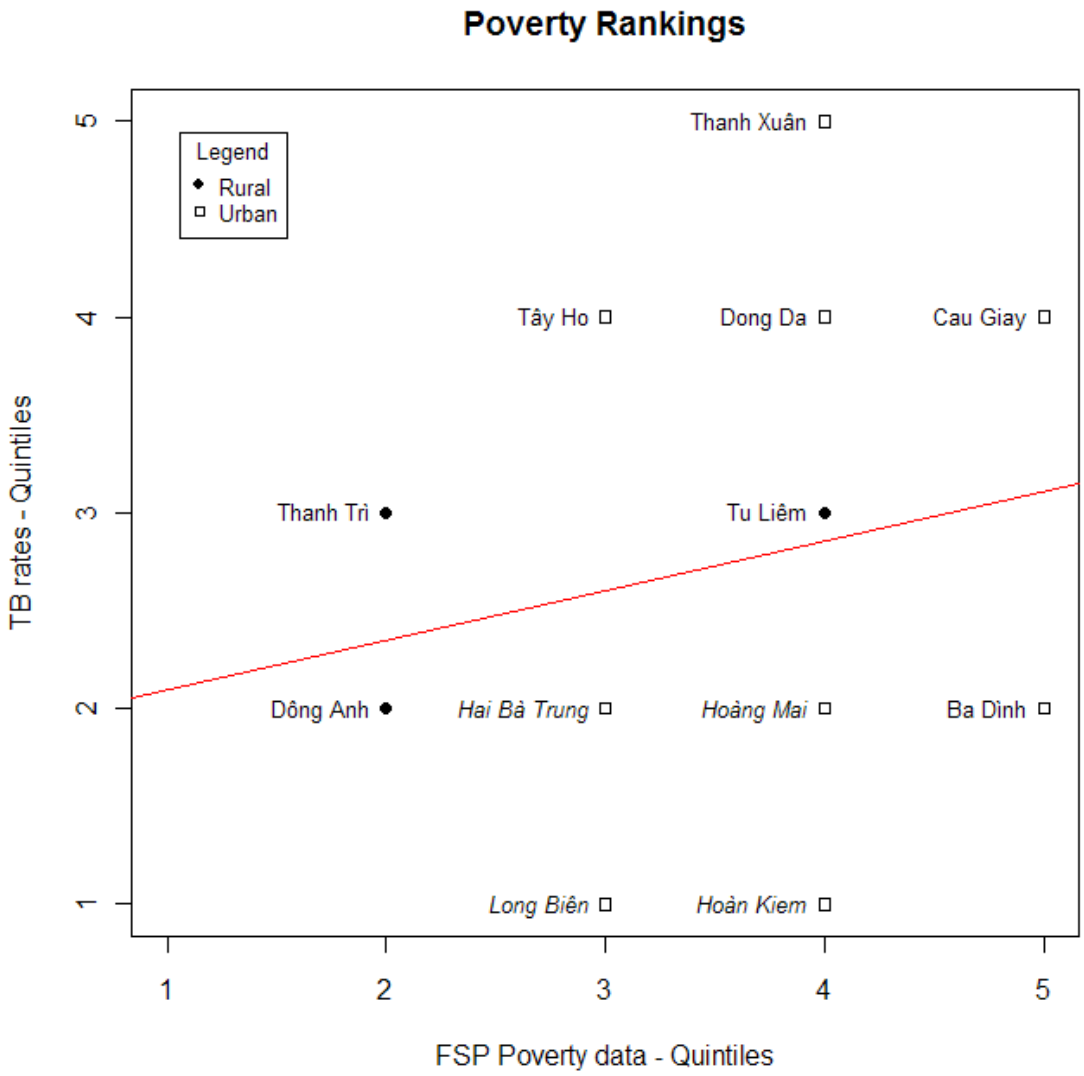
To confirm whether my use of tuberculosis data was a reliable approach to understanding the spatial patterns of poverty in Hanoi, I compared the data to another geographically disaggregated assessment of the distribution of poverty across city districts. I used an urban poverty map that was developed in 2007 by the Fonds de Solidarité Prioritaire en Sciences Sociales Project (FSP) – the only maps that I have ever found which disaggregate poverty between urban districts (Gubry et al. 2009). Though these maps most likely also fail to account for the presence of temporary residents who have migrated without state permission, they show that rural Gia Lâm district, east of the Red River, contains the greatest concentration of households with "low living standards" (Gubry et al. 2009:2). The next poorest districts are rural Đông Anh and Thanh Trì, followed by Tây Hồ, Long Biên, and Hai Bà Trưng. Slightly wealthier are Đống Đa, Thanh Xuân, Hoàng Mai, and rủal Từ Liêm. Cầu Giấy and Ba Đình districts appear best-off. Table 14 below, "Comparative Poverty Rankings of Urban and Rural Ha Noi Districts from Two Data Sources," shows a side-by-side comparison in poverty rankings between the FSP study data and the tuberculosis incidence data for districts of Hanoi.

District	Poverty per FSP 2007 data	Poverty per TB data 2004-2007
Ba Đình	Richest quintile	Second poorest quintile
Cầu Giấy	Richest quintile	Second richest quintile
Đông Anh	Second poorest quintile	Second poorest quintile
Đống Đa	Second richest quintile	Second richest quintile
Gia Lâm	Poorest quintile	Second poorest quintile
***Hai Bà Trưng**	Third poorest quintile	Second poorest quintile
***Hoàn Kiếm**	Second richest quintile	Poorest quintile
***Hoàng Mai**	Second richest quintile	Second poorest quintile
***Long Biên**	Third poorest quintile	Poorest quintile
Tây Hồ	Third poorest quintile	Second richest quintile
Thanh Xuân	Second richest quintile	Richest quintile
Thanh Trì	Second poorest quintile)	Third poorest quintile
Từ Liêm	Second richest quintile	Third poorest quintile

Table 14: Comparative Poverty Rankings of Urban and Rural Hanoi Districts from Two Data Sources. (Asterisks indicate districts where interviewing was conducted; italics indicate rural districts.)

To determine the degree to which the FSP and tuberculosis data sets confirm each other, I tested their correlation by ranking each district according to its membership in poverty quintiles numerically, assigning the integer "1" to the districts designated "poorest," a 2 to the second-poorest districts, and so on. Each district received two integers, one per data source. I then measured the degree of correlation between the two sets of integers by deriving Spearman's rank correlation coefficient, which is used to assess correlations between groups of data that are non-parametric (Myers and Well 2003:51). Graph 8 shows the relationship between the two measures of district-level poverty: quintile rankings calculated by FSP and quintile rankings of tuberculosis rates. The correlation coefficient r_s was 0.55, with a *p*-value of 0.19. These values, while not statistically significant, nonetheless demonstrate a modest degree of correlation between the FSP poverty data and the tuberculosis incidence data. (A correlation coefficient of 1.0 indicates perfect isometry between data sets; a *p*-value less than the significance level is statistically significant.)

The lack of statistical significance, given the very small number of data points for comparison, is not surprising. This suggests that using tuberculosis data as a way to assess the relative degree of poverty between urban districts in Hanoi and to base the selection of field sites on these data was potentially methodologically justified, but that the two metrics will not yield similar results when analyzed with respect to other data sets.



Graph 8: Relation between Two Sets of District Poverty Rankings. This graph shows the relationship between two measures of district-level poverty, quintile rankings calculated by the FSP study and quintile rankings of tuberculosis rates. Open squares represent urban districts of Hanoi; closed circles represent rural districts of Hanoi. Italics indicate districts where interviews were conducted. The red line represents the least-squares fit line for the association between FSP poverty quintiles and TB rate quintiles. Districts that fall closer to the line have a stronger correlation between FSP and TB rate quintiles.

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