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Governing Global Health: Knowledge and power in the global tobacco epidemic

A dissertation submitted in partial satisfaction of the requirements for the degree of Doctor of Philosophy

in

Sociology (Science Studies)

by

Katherine Elizabeth Kenny

Committee in Charge:

Professor Isaac Martin, Chair
Professor Steven Epstein, Co-chair
Professor Andrew Lakoff
Professor Roddey Reid
Professor David Serlin
Professor Charles Thorpe

2015

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Co-Chair

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Chair

University of California, San Diego

2015

DEDICATION

For my dear old Dad
Who would have thought this "bloody marvelous"

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ABSTRACT OF THE DISSERTATION

Governing Global Health: Knowledge and power in the global tobacco epidemic

by

Katherine Elizabeth Kenny

Doctor of Philosophy in Sociology (Science Studies)

University of California, San Diego, 2015

Professor Isaac Martin, Chair

Professor Steven Epstein, Co-Chair

This dissertation examines the coproduction of epistemic and regulatory authority in the field of global health using the case of international tobacco control. In 2005, the world's first public health treaty – the Framework Convention on Tobacco Control (FCTC) – was brought into force by the World Health Organization (WHO). Unanimously adopted by the World Health Assembly in 2003, the FCTC has since become one of the most widely and rapidly adopted treaties in the history of the United Nations. The success of the treaty is frequently attributed to its "unequivocal evidence base" and, as a result, the FCTC is frequently seen primarily as a technical

accomplishment. However, the evidence base of global tobacco control has been built on a very particular economic valuing of human life that emerged with the introduction of the Disability Adjusted Life Year (DALY) metric by the World Bank in 1993. The development of the DALY metric, coupled with organizational reconfigurations in the field of world health, instantiated cost-effectiveness as a dominant logic and enabled tobacco control to rise to prominence on the WHO's agenda. At the same time, the international movement for tobacco control began to gain traction as new political and discursive opportunity structures arose amidst WHO reform during the last 1990s. The dissertation argues that the accomplishment of the FCTC is much more than an evidence-based *technical* accomplishment: it represents the institutionalization of a new way of quantifying disease, economizing life and governing health on a global scale and a key moment in the transition from a post-war configuration of international health to the contemporary neoliberal global health order. Drawing on a range of textual sources, participant observations and interviews with key actors, the dissertation attends to the *economization of life* by tracing the epistemological, social and political dimensions of the development of the FCTC treaty. Its findings contribute to interdisciplinary scholarship on the history of world health, critical studies of global health and social studies of the relationship between science and policy – or between knowledge and power – including science and technology studies, biopolitics and social studies of globalization and postcolonialism.

INTRODUCTION:

GLOBAL HEALTH AND TOBACCO CONTROL

On February 27th 2005, the world's first international health treaty came into force: the World Health Organization's Framework Convention on Tobacco Control (WHO FCTC). Dr Gro Harlem Brundtland, then-director general of the WHO, praised the development of the evidence-based treaty as a landmark achievement in the history of world health and as "a milestone in international collaboration in a globalized world" (World Health Organization 2003a, 311). Characterized as a world-wide solution to a problem brought about by various processes of globalization, the FCTC is intended to address the world's single leading preventable cause of death – tobacco use – as well as the devastating social, economic, and environmental consequences it entails. The FCTC is the first treaty ever negotiated by the WHO and the first legally binding international agreement specifically directly towards a matter of health.

The FCTC was created at a distinct moment in the history of attempts to govern the health of the world's population. Frequently characterized as a transition from an older "international health" model to a new era of "global health", what this transition consists of, or entails, exactly, is not yet clear. It is sometimes celebrated as a positive development – one in which the nefarious cloud of Cold War politics on international health has lifted to reveal and new, morally superior landscape of global health. Alternatively, it is seen as a retrograde step that has displaced the socially and

economically progressive primary health care movement enshrined in the World Health Organization's 1978 Alma Ata declaration of "health for all by the year 2000" with 1) the global rise of neoliberalism, 2) the neocolonial imposition of exploitative markets in pharmaceuticals and health care services and 3) the continued hegemony of Western epistemic, philanthropic and regulatory institutions.

This dissertation is concerned with the global governance of health at the dawn of the 21st century, as seen through the case of global tobacco control. While addressing broader themes, I anchor my analysis in the history and development of a concrete global health intervention: the world's first public health treaty. The FCTC provides a useful case through which to examine the coproduction of knowledge and power in the field of global health and to reflect on the transition from international to global health over the last three decades.

GLOBAL HEALTH AND NON-COMMUNICABLE DISEASES (NCDs)

The emergence of global health has prompted considerable activity among multilateral health organizations, academic/medical/research institutions, philanthropic donors and non-governmental organizations (NGOs). More recently, it has also prompted critical reflection from across a range of the social sciences. However, much of this social scientific attention has focused on global dimensions of infectious diseases such as HIV/AIDs, pandemic influenza, SARS, malaria, tuberculosis and dengue fever (A. M. Brandt 2013; MacPhail 2014; MacPhail 2010; McGoey, Reiss, and Wahlberg 2011; Lakoff 2010; Lakoff and Collier 2008; Nading 2012; Nading 2015). In a recent article in *The New England Journal of Medicine*, historian of health Allan Brandt

suggested that AIDS "invented" global health: "the HIV epidemic and the responses it generated have been crucial forces in "inventing" the new "global health" (2013: 2149). While not discounting the role of infectious disease, this study takes a different approach. It focuses on non-communicable diseases (NCDs), specifically those caused by tobacco use, as crucially important to the emergence of the new global health.

The centrality of NCDs to the new global health can be seen in the following example. In September 2011, the United Nations General Assembly convened a high-level meeting to address the prevention and control of NCDs. It was only the second time in history that such a meeting had been devoted to a topic related to health, the first having been in response to the HIV/AIDs pandemic a decade earlier. Unlike the earlier meeting, at which the vast majority of the burden of HIV/AIDs was acknowledged to fall on the countries of Sub-Saharan Africa, the 2011 summit presented the threat posed by NCDs as universal (United Nations General Assembly 2012; United Nations General Assembly 2001). Far from the diseases of affluence that cancers, diabetes, and hypertension were once portrayed to be, NCDs had by late 2011 come to occupy a central place on the global health agenda.

However, the precise *kind* of threat that NCDs were seen to present was not limited to the domain of health: the UN Resolution adopted by the General Assembly declared that "the global burden and threat of non-communicable diseases constitutes one of the major challenges for development in the twenty-first century" and that "non-communicable diseases are a threat to the economies of many Member States" (United Nations General Assembly 2012). A report by the World Health Organization (WHO) and the World Economic Forum (WEF) published to coincide with the UN NCD

summit similarly warned: “The economic consequences of NCDs are staggering” with projected losses to low and middle income countries surpassing 4% of their annual output (WHO and WEF 2011:3). Another report projected that the cost of NCDs to the global economy would exceed US $30 trillion over the next twenty years (Bloom, D.E. et al. 2011: 5). NCDs were thus positioned as a threat to global health and to the global economy as well.

During the UN NCD summit, the global tobacco epidemic featured prominently – as an example the scale of the NCD problem and as an example of an effective solution. The FCTC was characterized as a “best buy” – a cost effective solution that represented a sound investment in global health and could ameliorate both the health and economic threat posed by the tobacco problem. By interrogating the history of the FCTC, then, this study also helps shed light on the place of NCDs within the boarder landscape of the new global health.

TACKLING TOBACCO

Tobacco has become the subject of a vast body of scholarship across a range of academic disciplines. Perhaps most obviously, tobacco and tobacco control have become fundamental topics of study within the field of public health where the harms to human health caused by tobacco use – and strategies to combat them – constitute the central focus (David and da Costa e Silva 2004; World Health Organization 1999a; S Chapman and Wong 1990; Simon Chapman 2007). But tobacco has also driven an impressive body of scholarship across the humanistic and social scientific disciplines. Most centrally, historians Allan Brandt and Robert Proctor have both contributed

weighty tomes that give exhaustive treatment to the history of the tobacco industry and American culture and the "cigarette catastrophe" and case for abolition, respectively (Brandt 2007; Proctor 2012b). Before them, journalist Richard Kluger's *Ashes to Ashes* had provided the most comprehensive account of the history of tobacco during the twentieth century (Kluger 2010). Other scholarship has focused on the politics of tobacco regulation (Pertschuk 2001; Zegart 2000; Kessler 2001; R. L. Rabin and Sugarman 2001) while still more has been motivated by the disclosure of millions of formerly secret tobacco industry documents (Glantz and Balbach 2000; Glantz, Bero, and Slade 1998). Much of this work highlights the evils perpetrated by the tobacco industry. A much smaller body of literature has celebrated the phenomenology of smoking (Klein 1995).

This dissertation takes neither an exhaustive historical approach to tobacco nor addresses the tobacco industry, per se. Rather, it takes tobacco – or more accurately the global tobacco epidemic as an object of knowledge and the FCTC as a policy instrument – as a case through which to examine broader questions about the coproduction of knowledge and policy and the history and governance of global health at the turn of the 20th century.

RESEARCH QUESTIONS

This dissertation interrogates tobacco control, non-communicable diseases and global health by posing the following research questions:

- How did the threat posed by tobacco come to be seen as an issue of global concern? How did a "global tobacco epidemic" emerge as an object of knowledge?

Throughout the second half the 20th century research on the negative health consequences of tobacco use was carried out at the level of the, predominantly Western, nation-state. Nevertheless, since the early1990's the field of tobacco control has come increasingly to acknowledge the emergence of a "global tobacco epidemic". How was this shift from a national to a global framing of the tobacco problem accomplished? Through what processes has the epistemic authority of global tobacco control science been established? Whose knowledge has emerged as "global knowledge"; which experts have emerged as "international experts"?

- Why did international regulation, in the form of a legally binding, WHO sponsored treaty, emerge as the best strategy for intervening upon the global tobacco problem?

The FCTC has become one of the mostly widely accepted treaties in the history of the United Nations. Importantly, the success of the treaty is often attributed to its "unequivocal evidence base" (Ruth Roemer, Taylor, and Lariviere 2005; Mackay 2003; D Yach and von Schirnding 2014). How has this evidence base come to be seen as sufficient justification for legally binding international regulatory approach? In other words, how has the regulatory authority of the FCTC been co-produced with the epistemic authority of global tobacco control science?

- What light does the case of the FCTC shed on the transition from international to global health during 1990s more generally?

To what extent does the case of the FCTC serve as an exemplar for the field of global health, both in terms of how health is imagined and how it is governed? How does the "evidence base" of the FCTC and the best practices it has established for the global governarnce of health extend beyond tobacco control? Does this new way of knowing and managing the health of the global population illuminate the field of global health or shed light on the transition from "international" to "global" health more generally?

I argue that despite warnings of a coming tobacco epidemic advanced by anti-tobacco activists since approximately the 1970s, the emergence of the tobacco epidemic as a contemporary global health concern depended on a particular way of quantifying the global burden of disease that was introduced by the World Bank in its *1993 World Development Report: Investing in Health.* In addition to its more familiar (and widely criticized) recommendations for the privatization of health systems and the introduction of user-fees for clinical services, the *Investing in Health Report* also introduced the Disability Adjusted Life Year (DALY) metric. The purpose of the DALY metric purpose was two-fold. First, it was intended to account for the "full loss of healthy life" due to death, disease and disability by measuring both mortality and morbidity in the same units of analysis. Second, it was intended to facilitate the use of cost-benefit analysis in prioritizing potential health interventions in the units of dollars spent per DALYs gained. But far more than just facilitating cost-benefit calculation, I argue that the DALY metric renders life *itself economic* by imagining health as a form of human capital and, as the very title of the World Bank report suggests, as a site of *investment*.

Investing in health, then, becomes an economic project that is oriented towards the speculative future, known through a range of forecasting techniques and concerned with optimizing rates of return on investment in life itself, especially through practices of *self-investment*.

Crucially for the FCTC, the DALY metric also brought both the scale of the global tobacco epidemic and the cost-effectiveness of interventions to curb its spread into sharp relief. DALY calculations and the findings of various World Bank-sponsored studies that employed the DALY methodology helped constitute the global tobacco epidemic as an object of epidemiological and economic knowledge. Characterized in this way, to global tobacco epidemic quickly became a global health priority.

In answering these questions, this dissertation draws on a wide range of textual sources, data from participant observation and oral history interviews with key actors. It uses Foucauldian-inspired interpretive methods to investigate the conditions of possibility for the emergence of the world's first health treaty. The resulting analysis contributes to a range of scholarly literatures. In part, it is a historical narrative of global tobacco control and its place in the history of world health. More fundamentally, though, it contributes to interdisciplinary studies of the relationship between science, society and the state, especially as each of these is rearticulated within an increasingly global context. It draws on, and contributes to work in science and technology studies, biopolitics and neoliberalism, social movements and political sociology, and social studies of post-colonialism and globalization. In the remainder of this chapter, I detail the empirical background of the case, before outlining my theoretical commitments. I

then discuss my methods and, finally, give a brief overview of my key findings and how they are presented in the chapters that follow.

THE TOBACCO PROBLEM

While tobacco consumption is declining throughout much of the Western world, the global dimensions of the tobacco epidemic have only recently come to be known. Smoking prevalence rates since the 1980s have fallen in the United States of America, much of Western Europe and other industrialized countries, but global consumption patterns have been steadily increasing. The number of smokers worldwide is reportedly due to increase from 1.1. billion in 2001 to 1.6 billion by 2025, an increase of almost 50%, if current smoking trends continue (World Bank 1999a, 2). Annually, 5 million deaths are currently attributed to tobacco use, but this figure is expected to double to 10 million deaths each year within the next decade if current trends continue. The sheer scale of the tobacco epidemic is further complicated by the geographic distribution of smokers, up to 84% of whom live in countries with developing or transitional economies, that is, in the global South (WHO 2008: 13).

The spread of tobacco use has been attributed to various processes of globalization – including trade liberalization, direct foreign investment and global marketing – and has been blamed for interfering with the project of development, contributing to third-world poverty and causing considerable environmental degradation (World Bank 1999). Because it attempts to ameliorate these problems – by requiring such measures as increased tobacco excise-taxes, public education campaigns and warning labels on tobacco products – the FCTC has been touted as a world-wide

solution to a problem of globalization and represents the first time in its sixty-year history that the WHO has exercised its constitutional mandate to negotiate a health related treaty.

Nevertheless, acceptance for a legally binding, multilateral approach was not immediately forthcoming. The idea of a tobacco treaty was conceived as early as 1993 and presented to the World Health Assembly in 1995. However, these early efforts were met with considerable initial resistance. As one senior WHO executive explained, at that time the proposal seemed "ambitious to a fault" (Ruth Roemer, Taylor, and Lariviere 2005, 937). But with the election of Dr Gro Harlem Brundtland as director general of the WHO in 1998, and the support of the World Bank, the momentum behind the framework convention began to build, such that by the time the World Health Assembly came to vote to accept the FCTC in May 2003, the full 192 member states of the Assembly voted unanimously in its favour. Since its adoption, 180 countries, representing over 90% of the world's population, have ratified the convention, making the FCTC one of the most widely and rapidly accepted treaties in the history of the UN.[1] That an overwhelming global consensus has emerged is clear. But for scholars interested in the social study of knowledge-production and the relationship between knowledge and policy, the standard "convergence model" of policy achievement, i.e. that science discovers, policy applies and society benefits, is deeply unsatisfying. The convergence model also sheds little light on the social, political or historical context in

[1] Of those countries that have not ratified the treaty, Indonesia and the United States of America stand unrivalled as the most populous. See, for example, http://www.who.int/fctc/en/.

which such policy successes are achieved. In other word, it disregards the very conditions of possibility with which this dissertation is concerned.

EXPLAINING THE FCTC - THE STANDARD STORY

Traditional explanations for the emergence of consensus in social policy typically presume what Clark Miller (2001, 248) has termed "cognitive convergence". On this model, different parties adopt convergent ideas based on shared scientific understandings of the world and enact social change on the basis of scientific evidence. Science is seen as prior to and as a determinant of social policy and as standing outside of social, political or historical context. The cognitive convergence model is evident in much of the rhetoric surrounding the FCTC: implicitly in the ubiquitous presentation of the framework convention as an "evidence-based" treaty; in Dr Brundtland's pronouncements that "[t]he science that underpins our work in unequivocal"; and in her view that "tobacco control can be achieved when scientists communicate with policymakers, when policymakers act on science, and when the media and NGOs are effective. It doesn't matter if a country is a major tobacco producer or consumer, from the North of the South, or from the developing or developed world" (de Beyer and Brigden 2003, 190).

The cognitive convergence model is evident also in the field of public health, where narratives about the development of the FCTC tend to operate with similar assumptions about the appropriate role of scientific evidence in tobacco control (Roemer et al., 2005). These public health narratives leave little room for the possibility of legitimate variation in tobacco control policies across different contexts, with

instances of dissent, disagreement or divergence quickly attributed instead to the nefarious influence of the global tobacco lobby.[2] In contrast to the linear causal stories provided by this line of scholarship, Roddey Reid (2005) has convincingly tied the different configurations of tobacco control initiatives in California, France and Japan to the respective cultural contexts and historical trajectories of the three countries. Taking a highly interdisciplinary approach that draws on the theories and methods of history, anthropology, cultural studies, media studies and science studies, Reid's account highlights the complexity involved in the attempt to "globalize" tobacco control – a degree of complexity that does not lend itself easily to the linear narratives of cognitive convergence nor to the homogeneous globalization of "best practice" tobacco control frequently espoused by the field of public health. This dissertation takes a similarly interdisciplinary approach in order to attend to the complexity involved in the emergence of the global tobacco epidemic, the development of the FCTC, and the transition from international to global health more generally.

THEORETICAL FRAMING

Science and Technology Studies (STS) Meets Globalization and Postcolonial Studies

Much work in the field of Science and Technology Studies (STS) has identified the many ways in which the convergence model of the relationship between science and

[2] A great deal of scholarship has been devoted to exposing industry interference in tobacco control initiatives, especially since the Master Settlement Agreement in 1998 made public millions of tobacco industry documents. See, for example, (Assunta and Chapman 2006; Simon Chapman and Carter 2003; Givel and Glantz 2001; Stanton A. Glantz and Balbach 2000; Zegart 2000; S. Glantz, Mamudu, and Hammond 2008). I discuss the rhetorical importance of industry interference in the latter part of Chapter 4.

society is inadequate. From its inception as a field, STS scholarship has generated a wealth of empirical studies that demonstrate how science, like other forms of socio-cultural knowledge, is *constitutively* social. The practices and products of science are seen as historically situated, locally specific, and socially contingent (Kuhn 1962; Bloor 1976). Far from being historically inevitable, the emergence of scientific entities (Fleck 1979), the credibility of particular scientific claims (Shapin 1995), the boundaries of scientific communities (Gieryn 1994), and the recognition of scientific experts (H. M. Collins and Evans 2002), are all seen as social achievements in need of empirical explanation. Careful analyses of the historical and political conditions of the production of scientific knowledge have shown that science encapsulates not only how the natural world purportedly *is*, but also particular visions of how the social world *ought* to be (Shapin and Schaffer 1985). STS scholars have employed the "idiom of co-production" (Jasanoff 2005; Jasanoff 2004; Oudshoorn and Pinch 2005; Latour 1993) in order to emphasize the ways in which science and society, or natural and social orders, are always co-produced, simultaneously, in ways that inevitably incorporate a normative dimension. Knowledge of the natural world is produced through processes imbued with the complex political and cultural dynamics of the social world and changes in the social order are, in turn, influenced by what is known about the natural order. Scientific knowledge and social practice are thus inseparable, and comprehensive studies of one must always account for the other.

Applying these insights to the case of global tobacco control, instead of seeing the "global tobacco epidemic" as a naturally occurring, ontologically independent entity, I treat it as an object of knowledge that has been coproduced with particular

social, historical and political developments, namely the transition from international to global health and attendant rise of global neoliberalism as an important mode of rationality in attempts to deal with the problem of health on a transnational scale. Similarly, the boundaries of the knowledge community involved in global tobacco control and the recognition, inclusion, or exclusion of particular experts within that community, are also seen as phenomena that warrant empirical attention.

The field of STS has attended to the commingling of scientific and social practices in a variety of ways, primarily by using richly detailed historical and ethnographic case studies of instances of scientific change, controversy and emergence, or of the mundane work of "normal science" (Kuhn 1962). For example, following Latour's injunction to "follow the actors" through their daily activities of scientific practice, a number of scholars embarked on deeply ethnographic laboratory studies that highlighted the local contingency and cultural specificity of scientific practice (Latour 1987; Traweek 1988; Knorr-Cetina 1999). While these collected works have served as an important corrective to earlier structural-functionalist approaches to the sociology of science (Merton 1973), and firmly established cultural and social constructionist approaches within the field of STS, the micro-focus on the culture of scientific practices has occasionally eclipsed the institutional and organization bases of power in scientific knowledge production.[3]

More recently, some scholars have proposed to reinsert attention to social structure in the STS agenda in a way that is not retrogressive, but is enlightened by the

[3] Feminist science studies is an important exception here. See, for example (Haraway 1989; Keller 1985; Murphy 2013).

cultural approaches of the recent past. For example, Scott Frickel and Kelly Moore label their approach the "New Political Sociology of Science", and characterize it as such:

> Sensitive to the arguments and incorporating insights gained from cultural science studies, but with an explicit focus on the structural dimensions of power and inequality in knowledge politics, NPSS extends the cultural schools" thick descriptions of how science works toward research explaining why science works better or more often for some groups than for others, and the ways in which social attributes such as race, gender, class, and profession interact with and condition those particular outcomes (2006:7).

To be sure, their programmatic statement of an NPSS agenda formally articulates the approaches taken in many previous STS studies (see, for example Epstein's (1996) analysis of the production of knowledge in the AIDS epidemic and Jasanoff's (1995) study of scientists as policy advisors within governmental halls of power). Nevertheless, I follow Frickel and Moore in attempting to attend more explicitly to the institutional bases of power in processes of knowledge production. In the case of the FCTC this entails paying particular attention to the role of the World Bank in creating the conditions in which a WHO-led anti-tobacco treaty could eventually be passed.

Similarly drawing attention to the importance of political theory for STS, Charles Thorpe points out that the "theorization of politics within STS has particular relevance and urgency today as both the polity of science and the structure of the broader polity are being refashioned in the context of globalization" (2007, 63). While "globalization" has become a topic of increasing interest across the gamut of the social sciences, work in the field of STS often has remained focused at the local level – at the

level of the laboratory, or within the context of the individual nation state.[4] Across the social science literature, globalization is variously characterized as the increased flow of material goods, economic capital, people, technology and information across geographically dispersed yet interdependent networks in a way that simultaneously reorganizes both the local and the global orders. However, most of the literature on globalization does not to engage with the epistemological issues that constitute a central focus of the field of STS. Instead, "information" or "evidence" is treated as just another commodity to be exchanged, without sufficient attention to its essentially constructed and situated character.

Recently, a growing body of STS scholarship has called for greater attention to the "patterns of local transactions that give rise to global, or universalist, claims" (W. Anderson 2002, 643), and has suggested that attention to the "postcolonial" may be a productive way in which to do so (see, in addition, McNeil 2005; Reid and Traweek 2000). The term "postcolonialism", not unlike "globalization", encapsulates multiple, often amorphous, meanings. As characterized by Anderson (2002):

> [Post-colonialism] has been taken to signify a time period (after the colonial; a location (where the colonial was); a critique of the legacy of colonialism; an ideological backing for newly created states; a demonstration of the complicity of Western knowledge with colonial projects; or an argument that colonial engagements can reveal the ambivalence, anxiety and instability deep within Western though and practice (645).

At its broadest, postcolonial theory draws attention to the consequences of the history of colonialism for current configurations of the geo- and socio-political orders, and

[4] For important exceptions to this general trend see, for example, (Jasanoff 2005; Jasanoff 2004; Miller 2007; Miller 2004; Winickoff and Bushey 2009).

"alludes to both the impact and legacies of formally deposed imperial regimes and to new forms of exploitative global relations" (McNeil 2005: 106).

While postcolonial critique has focused primarily on literary representations, it has often "worked to destabilize, or at least challenge, the assumption that Western knowledge is objective, authoritative and universally applicable" (Anderson 2002: 646). Moving beyond literary theory, a similar emphasis on the consequences of the history of colonialism, the presumed universality of Western knowledge, and on the constitution of power in a transnational frame has been incorporated into the project of "postcolonial studies of science and technology". Also known as "postcolonial technoscience", this approach couples the theoretical agendas of STS with the emergence of new global formations to advance the "empirical study of the translocal co-production of techno-science and social orders" on a global scale (Anderson 2002:647). By focusing on the "global tobacco epidemic" and the FCTC this dissertation contributes to more overtly political studies of the consequences of the coproduction of science and policy in a context of postcolonialism and globalization.

Foucault, Biopower & Biopolitics

This dissertation also draws theoretical guidance from the work of French historian and social theorist Michel Foucault, especially his work on biopolitics, governmentality and neoliberalism. Foucault famously described a fundamental shift in the order of politics that began in the West starting around the seventeenth century. In contrast to an older form of power, typified by the right of the sovereign to take life or let live, modern forms of power, he argued, invert this relationship by fostering life or

disallowing it to the point of death (Foucault 1978, 138–145). This power over life – what Foucault termed "biopower" – takes two basic forms. The first, which Foucault called an *anatomo-politics of the human body,* consists in the application of a disciplinary technology to individual bodies. The second form – the *biopolitics of the population* – consists in the application of a "technology of security", that is interventions and regulatory controls directed towards the "species body" i.e. at the level of the population (Foucault 2004:249). Whereas the anatomo-politics of individual bodies operates at the nexus of the body-organism-discipline-institution, the biopolitics of populations cohere at the juncture of the population-biological process-regulatory mechanism-State (Foucault 2004: 250. See also Lemke 2011: 37). According to Foucault, the function of this "bipolar" technology of power is "to invest life through and through (1978: 139).

In order to "invest life" at the level of the population, knowledge of the species body – its rates of reproduction, mortality, productivity health and disease – become imperative, driving the development of new disciplines such as statistics, demography and epidemiology. The object of these disciplines is not individual human beings, but rather their biological features abstracted and aggregated at the level of the population (Lemke 2011, 5). One consequence of the development of bio-power is the growing importance assumed by the action of the norm. The regulatory strategy of biopolitics does not rely on the discipline or surveillance of individuals, but rather regulation and normalization:

> It is no longer a matter of bringing death into play in the field of sovereignty, but of distributing the living in the domain of value and utility. Such a power has to qualify, measure, appraise, and hierarchize

> rather than display itself in its murderous splendor; it does not have to draw the line that separates the enemy of the sovereign from his loyal subjects. It effects distributions around the norm (Foucault 1978: 144).

Of course, the two axes of biopower that Foucault describes do not operate in complete isolation from one another. Instead, they intersect in domains where individual bodily practices and aggregate level properties of populations overlap – as with the "apparatus of sexuality" or, in my case, health and disease. Biopolitics thus helps shed analytic light on cases like tobacco control, which are at once privately managed through individual bodily practices of the self and publicly administered through population level regulatory strategies.

Social Movements without the Sovereign

Finally, this dissertation draws somewhat selectively on some strands of social movements theory while retaining a Foucauldian notion of power as inhering within structures beyond those of the formal state. Contemporary social movements theory has been characterized by the fragmentation and hybridization of two earlier paradigms: North American resource mobilization/political process (RM/PP) theory and its European counterpart: new social movements (NSM) theory. RM (Mccarthy and Zald 1977; Jenkins 1983) and PP theory (McAdam 1982; Kitschelt 1986) have both tended to operate on a rational-actor model that directs attention to the availability of resources and political opportunities and how these were put into service by cost/benefit-calculating mobilizers. Implicit in this paradigm is a conception of power as operating solely through, or in relation to, the structures of the formal state. In contrast, NSM theory (Touraine 1985; Touraine 2004; Offe 1985; Habermas 1981) has argued that

rational-actor models could not be applied to many contemporary mobilizations, especially those directed towards identity and autonomy rather than economic redistribution or policy change (Gamson 1989). The NSM paradigm expressly rejected the cost/benefit-calculating rational actor model and, with it, the narrow conception of political action.

However, both RM/PP and NSM theories have drawn heavy criticism on a number of fronts. RM/PP theories were criticized for their state-centric approaches which could not adequately account for the full diversity of collective action in society and for ignoring the role of history, culture and context in collective action (Buechler 2000: 38; Goodwin and Jasper 1999). On the other hand, the empirical adequacy of the post-industrial uniqueness of NSMs has been called into question, while other critics have questioned the totalising tendency of NSM theories to view NSMs as indicative of *the primary* tension or conflict in post-industrial society (Buechler 2000; Polletta and Jasper 2001; Pichardo 1997).

Sociology of social movements has since been characterized by fragmentation and hybridisation of these two paradigms in attempt to better account for the role of historical and culture in social movements operations. For example, newer, multi-institutionally oriented approaches to social movements have attempted to move beyond the long-standing politics/culture binary by encompassing a much broader range of institutional targets, and thus a broader range of collective change efforts, within their explanatory domain. On these views, social movements need not be directed solely towards the structures of the formal state, and may legitimately adopt institutional targets, such as medicine (Epstein 1996) or education (Binder 2002), or more

amorphous cultural targets, as the focus of their activities. Building on the work of Pierre Bourdieu (Bourdieu 1977; 1989) and Michel Foucault (Foucault 1978; Foucault 1980; 1982), some scholars have adopted the terminology of "fields of protest", "fields of contention", (Armstrong 2002; Ray 1999; Crossley 2002; Crossley 2006) or "multi-institutional politics" (Armstrong and Bernstein 2008) to differentiate their new theoretical approaches from earlier paradigms, especially those associated with RM/PP theories. Despite the terminological differences, these various perspectives collectively reject the view of politics as pertaining only to the structures of formal governance of nation-states and the accompanying view that power functions in society through these channels alone. Instead, they hold that domination is organized around multiple sources of power, each of which is simultaneously material and symbolic. In contrast to the view of power as flowing only through the channels of the formal state, a multi-institutional politics approach sees power as distributed across a much wider variety of social institutions. This substantially broadens the domain of social movements inquiry beyond forms of collective action that challenge the state and grounds the study of social movements in empirical research that is sensitive to historical change and situational contingency (Goodwin and Jasper 1999). Instead of insisting that movements conform to pre-existing theoretical models, the emergence of any given movement, its targets, goals and strategies all become questions in need of empirical investigation. In the case of the FCTC, this entails paying particular attention to the emergence of the global tobacco epidemic as an epidemiological problem, as an economic problem, as a WHO concern and as the subject of the WHO's first legally binding health treaty.

METHODOLOGICAL APPROACH

Building on my theoretical commitments, my methodological approach is similarly inspired by scholarship in the Foucauldian tradition, broadly construed. I draw on a range of qualitative sources that I treat as primary data: articles in the scientific literature, published reports, working papers and discussion papers, technical reports and archival documents. These include articles from leading scientific journals: *Lancet*, *New England Journal of Medicine*, *British Medical Journal*, *American Journal of Public Health*, *Tobacco Control, Bulletin of the World Health Organization, World Health Statistics Quarterly, Social Science and Medicine, Journal of Health Economics and Journal of Political Economy.* I utilize additional textual documents, especially World Bank and World Health Organization technical reports, working papers, meeting proceedings, agendas, speeches and memos from the organizations' electronic archives. Finally, I draw also on published materials such as annual reports, conference proceedings and academic edited volumes.

I supplemented my analysis of these textual sources with interviews with key actors in the history of the FCTC and with participant observations at a range of WHO, tobacco control and public health conferences and events both within the United States and internationally. Early in my fieldwork I undertook a professional development course in Public Health at the University of Sydney led by Professor Simon Chapman entitled "Tobacco Control Advocacy in the 21st century". Here I learned about common strategies for advancing tobacco control within Australia and internationally as well as the "evidence base" on which such policy initiative are frequently justified. I attended the 13th World Conference on Tobacco or Health in Mumbai, India in March 2009 and

the US National Conference on Tobacco or Health in Phoenix, Arizona in June 2009. This helped me begin to map the key actors, organizations and institutions active in national and international tobacco control. In November 2010 I attended the 4th Conference of the Parties of the WHO's FCTC in Montevideo, Uruguay where I was able to observe, first hand, the work of global tobacco control through the ongoing negotiation, management and implementation of the world's first health treaty. Finally, I conducted in-depth oral history interviews with a range of key actors: World Bank officials, WHO consultants, public health and tobacco control experts and activists.

To make sense of these data I follow Steven Epstein in employing analysis that is both "genealogical" and "archeological in orientation (Epstein 1996: 355-360. See also Foucault 1970, 1972, 1984). In presenting the history of the FCTC treaty, I have sought to present a genealogical account that emphasizes the deeply contingent nature of the treaty's development and eventual passage. In this, I hope to destabilize the more common public health histories that emphasize the almost teleological path from the treaty's "unequivocal evidence base" to its final ratification. My analysis is also archeological in that it attempts to uncover the historically specific "conditions of possibility" for the production of certain types of knowledge claims. In this, too, I hope to destabilize any sense of inevitability about the global tobacco epidemic as an object of knowledge, its positioning as a global health priority or the particular strategies adopted to curb its spread.

FINDINGS AND OVERVIEW OF CHAPTERS

The finding of my research are presented across five substantive chapters. In the first chapter, I draw extensively (though not exclusively) on secondary sources in order to trace the development of "world health" through three eras: colonial tropical medicine and Cold War international health and contemporary (neoliberal) global health. I use "world health" as an umbrella term to refer to the problematization of health on a transnational scale at its most general level. I reserve the terms "tropical medicine", "international health" and "global health" to mark historically specific eras in the history of world health. Similarly, I use the term "*inter*national" to refer to action *between* nations and the term "*trans*national" to refer to actors and actions that purport to transcend the *inter*national. Throughout this genealogy, I highlight the *biopolitical* dimensions of world health. I illustrate how, during each of these eras, developments in the practice of world health are intimately tied to the science of health and hygiene, to geopolitical transformations at the national, international and transnational level, and ideological contests on the world stage.

In Chapter Two, I begin my examination of the interconnectedness of science and politics in the contemporary global health era using the case with which this dissertation is centrally concerned: the World Health Organization's Framework Convention on Tobacco Control (FCTC). The successful adoption of the treaty is almost universally attributed to its "overwhelming evidence base". I investigate the origins of the evidence base of global tobacco control, locating its roots in the creation of the DALY metric, which was first introduced in the World Bank's World Development Report 1993: *Investing in Health. Investing in Health* is frequently

identified as a key moment in the structural transformation of the field of world health in the transition from international to global health (Brown, Cueto, and Fee 2006; Chorev 2012; Blanchet et al. 2013; Jamison et al. 2013; World Bank 1993). Here, I focus instead on the *epistemological* importance of *Investing in Health*, that is, how it has helped shape the mode of rationality that underpins the health of the global population as a scientific and political problem. The logic of *Investing in Health* prioritizes those public health strategies, like tobacco control, that attempt to intervene upon the health behaviors of individuals in order to make them more health-maximizing, i.e. its primary governmental strategy is *self-governance.* I argue that in addition to the semantic shifts and neoliberal structural reforms, this new way of knowing and governing the health of the global population is key in understanding the transition from international to global health at the end of the 20th century. Crucially for the case of the FCTC, the DALY metric also brought the "tobacco epidemic" into sharp relief. The development of the DALY metric bolstered global tobacco control efforts – as I describe in the following chapters - and contributed indirectly but significantly to the eventual passage of the FCTC treaty.

However, the newly recognized burden of the tobacco epidemic was not the first warning of an impending tobacco threat. Nor did the World Bank's problematization of the global tobacco epidemic lead directly to the creation of global tobacco control interventions in a strictly linear way. The World Bank's burden-of-disease characterization of tobacco and the World Health Organization's solution to that problem in the form of the Framework Convention on Tobacco Control *did* proceed chronologically: the DALY metric was first published in 1993, the full results of the

GBD study in 1996 (World Bank 1993; Murray and Lopez 1996a). The initial idea for a WHO Treaty was also conceived in 1993 and the World Health Assembly (WHA) adopted resolutions to pursue a legally binding international instrument of tobacco control in 1995 and 1996 (Roemer, Taylor, and Lariviere 2005; Mackay 2003). And although these became complementary and mutually reinforcing developments, each was motivated by slightly different epistemological, organizational and political concerns. While these were necessary conditions for the eventual passage of the FCTC, they were not sufficient causes. In Chapter Three, I begin to trace various other factors that contributed to the eventual passage of the treaty. I detail the slow growth of a public health movement for international tobacco control, the development of the idea for an legally-binding regulatory approach by Allyn Taylor (then a doctoral student in international law); and the uptake of her ideas by Professor of health law and public health activist Ruth Roemer.

Having traced the development of the early movement for tobacco control through its inception in the late 1960s, its mobilization of a moral outrage frame during the 1970s and 1980s, and its growing professionalization during the 1980s and into the 1990s, I turn more specifically to the history of the Framework Convention on Tobacco Control itself in Chapter Four. I begin with its initial conceptualization by Allyn Taylor and the uptake of Taylor's idea by public health activist and Professor of Health Law at UCLA Ruth Roemer. Roemer enthusiastically promoted the idea within the international tobacco control community and at the ninth World Conference on Tobacco or Health in Paris in 1994, which led to the creation of the WHO resolution in support of a tobacco treaty soon after.

However, the idea for a FCTC was initially met with skepticism and even hostility at the WHO, especially from the WHO's legal department. It was eventually embraced by Dr. Gro Harlem Brundtland upon her election as Director General of the WHO in 1998. Importantly, Brundtland adopted the World Bank's World Development Report 1993: *Investing in Health* as her "roadmap" to reforming the WHO and was guided by its recommendations for structuring national health systems according to a logic of economic rationalization, i.e. DALYs gained for dollars spent. Tobacco control presented an opportunity for the WHO to: 1) demonstrate its technical leadership by mobilizing scientific evidence in support of a legally-binding approach global tobacco control, largely in the form of GBD epidemiological forecasts and economic studies co-sponsored by the World Bank and 2) re-assert its moral voice regarding health equity, especially in light of the disproportionate burden of tobacco-related illness that was projected to fall on countries of the global South. It also gave the WHO an opportunity to position itself as the lead coordinating body within the field of global health by enacting Article 19 of its constitution and negotiating an unprecedented legally-binding health treaty. Tobacco control became a WHO priority at this point: Brundtland created the Tobacco Free Initiative (TFI) and appointed South African epidemiologist and anti-smoking campaigner Derek Yach as its head. With Brundtland at the helm of the WHO and Yach as head of the TFI, negotiations for the FCTC quickly got underway.

During the treaty-making process a number of developments helped speed its passage: public hearings in advance of treaty negotiations, the creation of an active transnational NGO movement, the deployment of various rhetorical strategies and, crucially, the publication and dissemination of the World Bank's *Curbing the Epidemic*

(1999) report during the negotiations. Throughout this history, I pay particular attention to the relationship between science and politics and to the persuasive power of the putatively objective evidence base of global tobacco control in the history of the FCTC treaty.

The World Health Organization's Framework Convention on Tobacco Control (WHO FCTC) was claimed to usher in a new era of global health not just because it was an unprecedented legally binding world health treaty, nor even because of the unique level of international cooperation it inspired. The WHO FCTC was claimed also to represent a "paradigm shift" in the control of diseases caused by harmful and addictive substances because it emphasized *demand* reduction strategies. That is to say, instead of regulating tobacco *products*, the FCTC treaty primarily regulates the behaviors of tobacco-using *people*. In attempting to intervene upon the risky yet still perfectly legal decision to consume tobacco products, then, the FCTC attempts to govern global health through prescribing health-maximizing, risk-minimizing behaviors – i.e. by prescribing the "conduct of conduct" of the global population (Burchell, Gordon, and Miller 1991, 2). And it attempts to do so by correcting what the World Bank identified as a market failure in the decision to smoke, i.e. that smokers neither full know their risks nor bear the costs of their individual consumer choice (1999). In Chapter Five, I examine the two central demand reduction strategies of the FCTC that are designed to correct for this market failure: education (increasing smokers" knowledge about the risks of smoking) and taxes (increasing the "costs" involved in deciding to smoke).

I argue that both of these demand reduction strategies are based on a model of a cost-benefit calculating neoliberal *homo oeconomicus* – the same figuration of human

action that I argued undergirds the DALY metric discussed in Chapter 2. Education campaigns and taxation strategies both seek to alter the costs and benefits of present *and future* smoking in such a way that the decision not to smoke is the only rational course of action. I conclude with a visual tour of a novel health education strategy that emerged in Australia in the late 1990s and has since been strongly adopted as FCTC "best practice" – the graphic warning strategy.

Finally, in the conclusion to the dissertation, I return to the theme of the *economiczation of life.* Popular public health narratives present a picture of the development and acceptance of the FCTC as dependent largely on the strength of its evidence base and the political will of its key advocates. In contrast, I present a history of the FCTC treaty that emphasizes its dependence on a new way of quantifying disease, economizing life and governing health that emerged during the 1990s. In turn, I argue that this tripartite process of quantifying disease, economizing life and governing health is important in understanding the transition from international to global health at the dawn of the 21st century. I conclude with some more recent examples of the continued relevance of economization in the field of contemporary global health.

CHAPTER 1:

HISTORICIZING WORLD HEALTH: COLONIAL TROPICAL MEDICINE, COLD WAR INTERNATIONAL HEALTH, NEOLIBERAL GLOBAL HEALTH

This dissertation is primarily concerned with the global governance of health at the dawn of the 21st century. However, concern with the health of populations beyond the territorial borders of individual nation states has a long and detailed history, one that dates back to the earliest moments of international exploration, conquest, trade and exchange.[5] The precise form that collective health efforts have taken has varied considerably over at least the last three hundred years. In this chapter I trace the development of "world health" through three eras: colonial tropical medicine, Cold War international health and contemporary (neoliberal) global health. I use the term "world health" as an umbrella term to refer to the problematization of health on a transnational scale at its most general level. I reserve the terms "tropical medicine", "international health" and "global health" to mark historically specific eras in the history of world health. Throughout this genealogy, I highlight the *biopolitical* dimensions of world health.

[5] Treatments of this history that apply a critical, rather than a celebratory lens have emerged largely in the last 20 years (Bashford 2006; Bashford 2004; A.-E. Birn 1996; A.-E. Birn and Solorzano 1999; A.-E. Birn 2009; A. Birn 2014; Cueto 2007; W. P. Anderson 1998). For the definitive celebratory account, see (Rosen 1993).

Biopolitics and Biopower

Michel Foucault famously introduced the terms biopower and biopolitics to describe how the life and productivity of human bodies are individually and collectively interpolated into broader relations of power (1978; 2004; 2010). In contrast to pre-modern forms of sovereign power, typified by the right to *take* life - i.e. to kill, modern forms of biopower, he argued, operate through the promotion and intensification of life – i.e. through the regulation and optimization of population processes such as fertility, birth, health, morbidity and death. In their clarification and extension of Foucault's sketch of biopower, Paul Rabinow and Nikolas Rose (2006) explain:

> At its most general… the concept of "biopower" serves to bring into view a field comprised of more or less rationalized attempts to intervene up on the vital characteristics of human existence… [W]ithin the field of biopower, we can use the term "biopolitics" to embrace all the specific strategies and contestations over problematizations of collective human vitality, morbidity and mortality; over the forms of knowledge, regimes of authority and practices of intervention that are desirable, legitimate and efficacious (196-197).

As such, an analysis of biopolitics, they argue, should account for the authoritative discourses and supporting institutional structures directed towards the vital character of living human beings; the interventionist strategies that target certain collectivities in service of life and health; and the modes of subjectification whereby the objectives of the life and health of the population come to be enacted through practices of the self. These three elements serve as sensitizing concepts throughout this dissertation. In this chapter, I focus largely on the first two: discursive/institutional formations and interventionist strategies, and how these have varied across the three eras of world health. Another way of formulating my focus is on the *coproduction* of the science and

policy of world health across the eras of colonial tropical medicine, cold war international health and neoliberal global health.

While Foucault's genealogy of the arts of government (including biopower) is now well known (Rabinow and Rose 2006; Lemke 2001; Burchell, Gordon, and Miller 1991; Dean 2012) here I follow a different set of historical developments in order to attend sufficiently to the *global* biopolitical dimensions of world health. In addition to discourse, authority structures and strategies of intervention– all essential dimensions of Foucault's original concept - an understanding of contemporary biopower and global biopolitics must also take seriously the deterritorialization of political power and economic productivity that has occurred in recent years as a result of neoliberal globalization (Waldby 2005). Throughout this analysis, then, I highlight the operation of biopower by drawing attention to the coproduction of historically specific and geographically embedded forms of knowledge, regimes of authority and practices of intervention seen as legitimate in each of these different eras of world health.

Overview of Three Eras of World Health

Dating from the early to mid-nineteenth century, the first era of world health can be seen as the age of tropical medicine, which arose in order to deal with the health effects of colonization. It was not, it is important to note, motivated by a concern with the well-being of "natives" or people indigenous to colonized territories. Instead, tropical medicine focused on making the colonies habitable by white Europeans and protecting the health and wealth of Western empires. Tropical medicine drew on the new fields of parisitology, germ theory and epidemiology and coupled them with extant

colonial structures of authority in order to attend to the vital needs of white bodies in tropical lands. The founding of the London School of Tropical Medicine in 1899 can be seen as emblematic of this era.

Although the study and practice of tropical medicine persists in various forms to this very day, a shift in the dominant mode of attending to world health began to emerge in the years following World War I. This era saw the founding of the League of Nations and its attendant Health Organization and laid the groundwork of a brand of internationalism that would be revisited with renewed vigor in the wake of World War II. Although this post-war approach to international health aspired to political neutrality and principles of universality, it was inevitably shaped by broader relations of power configured by the geopolitics of post-colonialism and the Cold War. While there were gestures towards universalism during this era, ultimately Cold War international health concerned itself with those bodies perceived to be vulnerable to the political germs of communism within the geographic space of the third world. The World Health Organization's Global Malaria Eradication Program illustrates the era's guiding logic, institutional players and key tensions.

A more recent transformation in the institutional responses to collective health concerns can be discerned in the transition from "international" to "global" health since the early 1990s. More than a simple semantic shift, the emergence of global health has both resulted from and contributed to a reconfiguration of multilateral institutions, international non-governmental organization, philanthropic donors and civil society actors all of whom purport to care for nothing less than the health of each and every member of the population of the globe. A stable definition of "global health" has yet to

emerge, and contests over its underlying ethics, overarching mission and immediate agenda occur frequently. Nevertheless, the discursive and institutional transformations that have occurred over the last twenty-five years point to a rupture with the earlier mode of international health. In the following chapters, I develop the argument that one important feature of the contemporary global health era is a new way of quantifying health and disease, valuing life and governing health on a global scale – a tripartate process that I refer to as the *economization of life.* In this chapter I survey the history of world health through the eras of colonial tropical medicine and Cold War international health as important antecedents to the contemporary global health era. This history serves as necessary background to the argument I advance in Chapter 2 regarding the economization of life. Table 1 sketches the primary points of differences between these three eras.

Table 1.1: Three Eras of World Health

	Tropical Medicine	**International Health**	**Global Health**
Primary Institutional Actors	Colonial Governments	National Governments, World Health Organization	Multilaterals, philanthropics, public/private partnerships, NGOs
Guiding philosophy	Colonialism	Cold War Capitalism/Communism	Neoliberalism
Target population	"white" bodies in tropical lands	"vulnerable" bodies in the third world	"productive" bodies everywhere
Geographic reach	Colonial Empires	Third World	Universal
Source of threat	"tropics"	"communism"	"economic underdevelopment"

THE EARLY DAYS: COLONIAL TROPICAL MEDICINE AND THE LONDON SCHOOL

The Prehistory of World Health – Contact, Conquest, Death and Disease

I began this chapter by stating that concern with the health of populations beyond the territorial borders of individual nation states has a long and detailed history. In fact, collective health concerns in many ways preceded the creation of nation states themselves. Innovations that we would now consider to be within the domain of public health, such as public sanitation measures, methods of ensuring clean water supply, drainage and waste disposal all date to the ancient civilizations of Greece, Rome, China, Ethiopia and Mesoamerica thousands of years ago. However, until the Middle Ages, health concerns and disease outbreaks were of limited geographic reach. This changed dramatically with the epic outbreak of plague in the 14th century that came to be known as the Black Death. Increased trade and exchange had intensified contact between peoples of distant regions over the preceding centuries. When the Black Death broke out, it spread prolifically across Europe and the Far East, carried by flea-infested rats that frequented merchant vessels along these trade routes. More than 25 million Europeans, and tens of millions of inhabitants of China, Russia, India and the Eastern Mediterranean all perished with the plague - it has been estimated that approximately one third of the world's population died during the horrendous pandemic. To this day, the Black Death is still regarded as the most deadly epidemic in the history of humankind (Birn, Pillay, & Holtz, 2009: 19).

Because the Black Death's initial onslaught also predated the formation of nation states, efforts to forestall it – the use of quarantine, for example – and measures

to clean up in its wake – such as fumigating the bodies and belongings of the deceased - fell to local authorities which operated independently of one another since there was no system of cooperation between local municipalities or city-states at the time. While other diseases plagued Europe during the Middle Ages and early modern period, it was the plague itself, and the responses to it mounted by independent local municipalities and city-states that can be seen as archetypical of this early period in the (pre)history of world health.

During the early years of the 15th century, technical improvements in navigation and increased maritime prowess spurred a series of conquests by western Europeans in far corners of the globe. These conquests brought new lands and new materials such as gold and other minerals to imperial powers. But to the native inhabitants of colonized lands, contact with Europeans primarily brought great suffering, including devastating rates of mortality from diseases against which indigenous populations had precious little immunity. Precise statistics are lacking, but a number of scholars estimate that between one-third and one-half of indigenous inhabitants of colonized lands perished during the conquests of the 15th and early 16th centuries from conditions ranging from smallpox to influenza (Rosen 1993; A.-E. Birn, Pillay, and Holtz 2009). For example, the Spanish bishop Bartolome de las Casas recorded that the indigenous population of the Antilles in 1492, the year that Christopher Columbus arrived in what came to be called the West Indies, numbered 3,770,000. A short 25 years later, only 15,600 had survived slavery, death and diseases (Birn, Pillay, and Holtz 2009: 22).

Early contact between European colonizers and indigenous peoples brought considerable mortality to newly conquered lands. While indigenous groups shouldered

the vast majority of this burden, colonizers, too, succumbed to disease. Attempts to colonize West Africa, in particular, decimated European expeditions to such an extent that the region was referred to as the "white man's grave" (Birn, Pillay and Holtz 2009: 24). Dysentery and malaria were rife, especially in Africa, and diseases such as influenza, smallpox, measles, cholera and yellow fever were common in the New World. Trade, exploration, conquest, and later the slave trade, resulted in the spread of these diseases to previously unaffected regions. However, the promise of riches far outweighed the fear of death and disease – especially for those who profited from colonial exploits without ever leaving Europe (Birn, Pillay and Holtz: 25).

The Birth of Tropical Medicine

Against this historic background, three specific developments immediately preceded the emergence of the field of tropical medicine. The first was the "invention of the tropics" as a discursive space, not just a geographic locale. Labeling certain regions of the globe in this way made it possible for imperial powers to define the environment and its peoples as essentially, and inherently, different from Europeans. As Birn, Pillay and Holtz (2009) put it,

> The idea of the tropics was, in origin and essence, the perception and the experience of white men (and women) venturing into an unfamiliar world in which climate, vegetation, diseases, and people all appeared to be different, and in which the familiar forms of temperate life were threatened, overturned, or inverted (26).

The assumption of essential differences between black or brown inhabitants of the tropics and white Europeans of more temperate climes grounded the supposed racial

superiority of the latter and justified the "exploitation of regions and peoples deemed unable to escape their medico-geographic state of underdevelopment" (27). This assumption also came to undergird the development of tropical medicine as a branch of medicine separate and distinct from that practiced at "home".

Second, processes of rapid industrialization produced important changes on two fronts. First, it made imperial powers hungry for the resources of colonial territories. Where particular diseases presented a threat to effective exploitation of the resources and labor of the colonies, they quickly became an area of concern for imperial powers. The obstacle posed by malaria, for example, to rubber plantations on the Malay peninsula (Manderson 2002) or, later, yellow fever to the construction of the Panama canal (Abernathy 2000) brought the control of such tropical diseases to the attention of British and American powers.

Rapid industrialization, especially in Britain, caused important domestic consequences, too. In bringing about increased urbanization around manufacturing centers, the process of industrialization led all too often to squalid living conditions for a great majority of the new laboring class. As a result, diseases such as typhoid, typhus and cholera were rampant and presented a constant threat not only to the lives of workers, but to the profits of capitalists as well. This led to sanitary reforms intended to improve the living conditions, health and, putatively, the moral standing of the new laboring class.[6] Early domestic public health efforts, spearheaded by social reformers such as Sir Edwin Chadwick, advocated clean water supply, urban waste disposal and

[6] It is to this historical period that Foucault dates the emergence of modern forms of domenstic or nationally-based biopower (Foucault 2004).

sewage systems and emphasized the overall economic benefit of investing in such infrastructure . Importantly, reformers of the Chadwickian persuasion rejected improved working conditions, wages and food as remedies for the ills of the working class. This view was popularized in the contemporaneous writings of Friedrich Engels, who attributed the same problems documented by Chadwick to the exploitation of the proletariat under a capitalist economic system (Engels and McLellan 2009). Ultimately, however, it was Chadwick's, rather than Engel's vision, that came to be entrenched as the foundation of many public health efforts. This tension between specific technical interventions and overall improvements in social conditions – or between "vertically" and "horizontally" integrated initiatives in today's parlance – has been an enduring theme throughout the history of public health, both domestically and internationally.

Finally, the middle years of the 19th century saw a shift away from a miasmatic understanding of disease, which had held sway for the previous two millennia, towards more mechanistic ideas about disease causation. Instead of viewing disease as caused by "bad air", malodorous vapors or general filth, the emergence of parisitology, germ theory, and the science of epidemiology directed medical attention towards infectious agents such as germs and parasites as potential causes of a number of tropical ailments and raised new questions about modes and vectors of transmissions. This shift eventually made diseases such as malaria and cholera conditions for which targeted interventions could be sought. Importantly though, as historian John Farely points out, the emergence of germ theory and parisitology often made *vectors*, rather than *victims* of disease the object of concern, resulting in a top down authority structure that privileged Western administration of local interventions: "parasitic diseases" Farely

observes, "could be prevented without the involvement of the people with the disease" (Farley 2004: 291). And, of course, it was interventions of precisely this kind that the field of tropical medicine came to seek.

These developments set the stage for the emergence of the field of tropical medicine, which combined new discoveries in science and medicine with the expansion of western empires. The new disciple came to be institutionalized, first and foremost, in the London School of Tropical Medicine, founded in 1899 by Sir Patrick Manson. Widely regarded as the father of tropical medicine, Manson had spent his early career in the Far East, where he became frustrated at his lack of knowledge of the range of diseases he witnessed there. This frustration motivated his own studies in the field, one of which led to the discovery that local mosquitoes were involved in the transmission of filariasis – a parasite that causes elephantiasis. This discovery conditioned his subsequent hypothesis that the mosquito was also responsible for the transmission of malaria, a hypothesis that would be proved correct in later collaboration with Sir Ronald Ross (Hamlin 1998).

After his return to London, Manson was appointed Medical Advisor to the Colonial Office, where he found a ready collaborator in Colonial Secretary Joseph Chamberlain. A staunch imperialist and keen supporter of a strong and expansive British Empire, Chamberlain was said to be the first English statesman "with imagination enough to apprehend the great part which medical science [plays] in the world" (Allbutt 1905). Chamberlain shared Manson's conviction that developing the study of tropical diseases and training an imperial workforce skilled in these arts was of the highest importance for the expansion and maintenance of the empire. Chamberlain

thus lent great support to Manson's efforts to establish a school that would focus on the diseases that effected colonists in tropical regions, which he saw as a desirable complement to the overall objectives of the Colonial Office.

This intermingling of the field of tropical medicine and imperialist discourse are made clear in a toast given by Joseph Chamberlain at a fundraising dinner prior to the opening of Manson's School. Delivered to an assembled audience of roughly 400 members of Britain's high society, Chamberlain's speech is worth quoting at length. "My Lords and Gentlemen", he began:

> I have now to propose to you the toast of the evening, "The London School of Tropical Medicine." I hope that you will not be alarmed, and that you will not fear that I am about to lead you into the thorny paths of political controversy, when I say that we are met here to-night in order to promote Imperial policy. I am sure that when our object is fully explained we shall have the hearty sympathy and support of men of every party and of every shade of politics …
>
> Now the British Empire contains, I suppose, roughly, something like 300 millions of coloured people, living mostly in tropical climates, and it is the government and control of the tropics which form the principal part of that "white man's burden"… Now in this great work of civilization and government our greatest enemy is not the hostility of savage chiefs, nor the influence of barbarous customs, nor even the physical difficulties of countries in which primeval nature still holds full sway; but it is rather the insidious attacks of a deadly disease which weakens where it does not kill and which shortens the lives and careers of many of the ablest and most energetic of those who go out to represent us in these countries...
>
> We have to seek out and make clear the history and origin of these diseases. We have, if possible to find a cure for them, and with those objects we have to extend the study of these tropical diseases, and to create, it may be, a school of trained practitioners and investigators so that in future scientific research may go hand in hand with practical medicine…
>
> My lords and gentlemen, the man who shall successfully grapple with this foe of humanity and find the cure for malaria, for the fevers desolating our colonies and dependencies in many tropical countries, and shall make the

> tropics livable for white men – who shall reduce the risk of disease to something like an ordinary average - will do more for the world, more for the British Empire, than the man who adds a new province to the wide dominion of the Queen ("Mr Chamberlain and the Colonies" 1899).

Chamberlain's toast makes explicit the centrality of the study of tropical diseases to colonialist endeavors and the appeal of its development as both a field of study and as a practice of empire to "men of every shade of politics". In it, we can see that tropical medicine was concerned ultimately with optimizing the life and health of only certain bodies, namely white, British ones, in foreign tropical lands. As such, the field of tropical medicine did not seek to constitute the inhabitants of colonial territories as a population, per se, but rather extended a concern with the vitality of the domestic population to include those who "represent us" in tropical lands. In this sense, tropical medicine can be seen not as de-territorializing health, but as re-territorializing health according to a very specific colonial geography.

Chamberlain's toast must have inspired the desired sentiments among the gathered, for the fundraising dinner was a success – sufficient funds were raised that, combined with ongoing support from the Colonial Office itself, Manson and Chamberlain's vision could be realized. The London School of Tropical Medicine was thus opened five months later, accepting its first students in October 1899. The field of tropical medicine came to be institutionalized not only in the flagship London School that was so dear to the hearts of Lord Chamberlain and Sir Patrick Manson, but in other

schools both within Britain, as with the Liverpool School of Tropical Medicine also founded in 1899, and abroad.[7]

On the other side of the Atlantic, a slightly different approach to tropical medicine was taking root – one that espoused a less overtly colonialist orientation, but which retained its imperialist overtones nonetheless. In many ways, though, early American involvement with trans-border collective health began the shift towards international health that would gain increasing momentum after each of the World Wars, reaching its zenith in the geopolitical climate of the Cold War.

US Imperial Medicine and the Beginnings of International health

Having acquired tropical territories as spoils of the Spanish-American war in 1898, the United States now had a vested interested in tropical diseases, at least those prevalent in Cuba, Puerto Rico and the Philippines. The experiences of the US Army in these regions, especially of the US Army Yellow Fever Commission working in Cuba in 1900, led to increased interest in tropical diseases within the continental US and resulted, eventually, in the founding of the American Society for Tropical Medicine in 1903 (Burke and Fenton 2003; Howard-Jones 1980).

At the same time, a concern with trade expansion overseas in the wake of the closure of the Western frontier turned North American sights on Latin America as a reservoir of raw materials and as a potential new market. However, a complex web of

[7] The seats of power of other Western empires similarly became home to schools or institutes of tropical medicine, including the Bernhard Nocht Institute for Tropical Medicine, founded in Hamburg, Germany in 1900, the Institute of Tropical Medicine in Antwerp, Belgium in 1905, and the Royal Tropical Institute in Amsterdam, the Netherlands in 1910 (Hotez 2010).

differing quarantine and sanitary regulations that varied from country to country obstructed commercial expansion southward. In order to overcome this obstacle, the US pushed for the creation of a Pan-American Sanitary Bureau (initially named the International Sanitary Bureau) in order to standardize quarantine laws and regulations and to collect and disseminate epidemiological data. Established in 1902, the new organization – the first official international health organization of any kind - consisted of 7 members, three from the US and one each from Mexico, Cuba, Costa Rica and Chile.[8] However, because there were no funds available to assist with international travel, and because the organization was housed in Washington DC, the organization did not meet with sufficient members to constitute a quorum until 25 years into its existence . Instead, the task of imposing sanitary standards across the Americas was assumed by the Chairman of the Pan-American Sanitary Bureau, who happened also to be the Surgeon General of the United States (Burke and Fenton 2003; Howard-Jones 1980).

Far more influential than the Pan-American Sanitary Bureau (PASB) was another US-based organization: the newly created International Health Division of the Rockefeller Foundation.[9] Founded with the oil riches of John D. Rockefeller to advance

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[8] Five years later, the Pan-American Sanitary Bureau's European counterpart, the *Office Internationale Hygiene d'Publique* would be established in Paris, formalizing a fifty-year tradition of sanitary conferences. The Paris office's mandate was more modest, however, than the American Bureau, limiting its role to the collection and dissemination of public health developments in general, and epidemiological intelligence on a limited number of infectious diseases deemed a threat to maritime trade, namely yellow fever, cholera and plague (Borowy 2009, 27).

[9] The Rockefeller International Health Division was, at its founding in 1913 initially called the International Health Commission. It was renamed the International Health Board in 1916, and again the International Health Division in 1927. Here, I refer to it by its longest serving and, incidentally, final name – the International Health Division.

the "well-being of mankind throughout the word", and the first organization of any kind to identify itself as involved in "international health", the Rockefeller Foundation drew inspiration from the kinds of disease eradication campaigns that had proved instrumental to the economic advancement of the US South.[10] The International Health Division implemented similar campaigns around the world, befriending governments and paving the way for trade expansion and increased productivity worldwide (Farley 2004; Cueto 2007; A.-E. Birn 1996; A.-E. Birn and Solorzano 1999). Not bound by any particular colonial geography, but rather focused on capitalist expansion in general, the Rockefeller International Health Division saw *all* countries as potential recipients of their assistance.

Many of the Rockefeller Foundation campaigns – targeting hookworm, yellow fever, malaria, yaws, tuberculosis, and rabies, for example – met with great success, including the development, in 1936, of the Nobel-prize winning D17 yellow fever vaccine (Birn 1996: 51). These successes were achieved by strictly adhering to a particular model of international health assistance. Animated simultaneously by unwavering trust in scientific medicine and by a US progressive faith in the benefits of self-improvement and self-help, the work of the Rockefeller foundation was explicitly guided by two fundamental principles. First, it did not dispense "charity" or "relief", but rather saw its work as an "investment" in public health infrastructure (Farley 2004).[11]

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[10] Public health historian Marcos Cueto argues that the Rockefeller Foundation also drew inspiration from US military-led eradication campaigns conducted in Cuba and Panama – and that the success of these campaigns convinced the Foundation of the benefit of campaigns conducted in a "military style" (Cueto 2007).

[11] Although the Rockefeller Foundation say their work as a type of investment, this version of investment is noteably different from the World Bank's notion of investment articulated in the

The Health Division partnered with local authorities in order to implement disease eradication campaigns and sanitary measures that would outlast the finite assistance provided by the foundation. Second, it held that disease was "the determining factor of ill health and [that] health could be attained only by the control or elimination of communicable diseases" (Farley 2004:5).

According to public health historian Anne-Emmanuel Birn, the Rockefeller Foundation's strategies included:

> [R]apid demonstrations of specific disease-control methods based on proven techniques, a missionary zeal in its own officers, facilitating national commitment to public health through considerable cofinancing obligations, and using fellowship to mold a cadre of public health leaders. It also carefully avoided disease campaigns that might be costly, overly complex, time consuming or distracting from its technically oriented public health model (2009: 52).

These principles resulted in a highly biomedicalized approach to international health focused on technical, disease-specific interventions, an emphasis on national governments as the proper locus of public health responsibility, and the creation of a class of Western-trained public health experts as leaders of the field. While it relied on the hegemony of Western scientific knowledge, this approach also "domesticated" Western medicine by coupling its seemingly universal prescriptions with national public health bodies, often using local administrators who had been trained through Rockefeller-funded fellowships in Western schools of medicine. The Rockefeller strategy thus extended the reach of international health beyond particular colonial territories while establishing the primacy of the nation state in public health

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World Development Report 1993: Investing in Health. I discuss the later conceptualization in greater depth in Chapter Two.

interventions. The Foundation's emphasis on self-help was also directed towards the state rather than towards individual citizens; while the International Health Division encouraged the self-sufficiency of national public health authorities, the health interventions they promoted were largely technical fixes that required only minimal acquiescence or participation by local peoples.[12]

The approach to trans-border collective health concerns that the Rockefeller International Health Division espoused flourished in large part because of its status as a philanthropic organization – putatively independent of government and business interests and with only limited accountability for its actions to anyone beyond the Foundation's board. This autonomy enabled the Foundation to continue some of its work despite the geopolitical upheavals of the First World War while other international health work was brought to a virtual standstill. Thus at the war's end, the Rockefeller Foundation was poised as the preeminent international health body.[13] But with the emerging emphasis on internationalism in the wake of the war, the Rockefeller Foundation would not remain peerless for long. The League of Nations Health Organization, and later, the World Health Organization would formalize the kind of

[12] However, with increased attention to non-communicable diseases within the era of neoliberal global health, a greater degree of "subjectification" of the global population can be found in the sense that ways of conducting oneself, especially involving the consumption of alcohol, tobacco, food and exercise are increasingly coming to be regulated as matters of health. See Chapter Five.

[13] Though the Rockefeller Health Division deserves recognition for its preeminence here, it is also worth recognizing the field of contenders was small: the only other extant international health organizations at this time were the Pan-American Health Bureau, the Office International Health d'Publique and the International Committee of the Red Cross (initially the International Committee for Relief to the Wounded), which was founded in Geneva in 1863. On each of these, respectively see (Bashford 2006; Fee and Brown 2002; Hutchison 1995).

internationalism that the work of the Rockefeller Foundation had helped create, marking the beginning of a formally international approach to world health.

THE MIDDLE YEARS – COLD WAR INTERNATIONAL HEALTH

The Interwar Years and the League of Nations Health Organization

World War I caused enormous destruction across Europe and created conditions in which many previously contained diseases flourished. Louse-borne typhus in Eastern Europe, cholera across Western Europe, and the worldwide influenza pandemic of 1917-1918 brought with them greater mortality than had been caused by the war itself. Controlling the spread of disease beyond the already-established domain of maritime quarantine regulation was thus taken up in the context of the inter-war years' emphasis on international cooperation.[14] International health came to be institutionalized within the newly founded League of Nations, first as a temporary epidemic commission tasked with addressing the ravages of typhus and cholera in Eastern Europe, then as the permanent League of Nations Health Organization (LNHO), established in September, 1923 under the universally recognized leadership on Polish bacteriologist Ludwik W. Rajchman .

During its roughly twenty year existence, the LNHO carried out a range of activities centering around standardization, epidemiological intelligence, disease-specific interventions and, during the 1930s, an exploration of the principles of social medicine including the influence of economic crisis, nutrition, housing, and infant

[14] Maritime quarantine regulations was the primary concern of the Office International Health d'Publique (Bashford 2006).

welfare on health. The fledgling organization enjoyed the generous support of the Rockefeller foundation – especially its programs devoted to information exchange and disease-specific health interventions. Among its major accomplishments was the creation of an epidemiological database with a greatly expanded geographical reach. Whereas the epidemiological purview of the earlier Office International Hygiene d'Publique was restricted to a limited set of diseases and a particular geography determined by perceived threats to maritime trade, the LNHO epidemiological database came eventually to cover virtually the whole world and included an expanded range of diseases as well (A.-E. Birn 2009; A.-E. Birn, Pillay, and Holtz 2009; Farley 2004). This data was published on a weekly basis, in the *Weekly Epidemiological Report* and served as the informational base upon which many international health policies and priorities were decided.[15]

However, despite its extended geographic reach and the new emphasis on international cooperation, the work of the LNHO was carried out in a context characterized by tensions and contradictions created by enduring colonial structures. While the LNHO's basic outlook was committed to worldwide participation and representation, its backbone – both organizationally and financially – was made up of colonial powers; Britain, France, Belgium, Spain, Italy, and Germany.[16] Further, any

[15] This database was inherited by the World Health Organization and continues today. It represents the first steps towards the constitution of a global population as the target of biopolitical global health interventions. See Chapter Two.

[16] Despite US President Woodrow Wilson's support for the League of Nations, the US Congress rejected America's proposed membership. The US never did join the League of Nations nor, officially its Health Division. Nevertheless, US participation in the LNHO was accomplished by the generous funding provided to the new international body by the Rockefeller Foundation, as

work carried out in large parts of Asia and virtually all of Africa entailed cooperating with, and thereby further legitimizing, colonial authorities. As historian Iris Borowy has argued:

> At the time, the omnipresence of colonialism and casual everyday racism obscured the difference between efforts to increase the health of [native inhabitants of colonial territories] in order to strengthen their independent societies or to increase their health in order to strengthen their input into European colonial performance. Thus, there was an inherent, though often invisible, ambivalence between the pursuit of a global order based on a perceived responsibility for world health or one based on colonial consolidation. In practical terms the difference was often negligible since the immediate aim, improving people's health, was the same regardless of the long-term goal. Thus, theoretically even the ardent colonialist could cooperate with the ardent anti-colonialist (2010, 3).

Borowy suggests that this contradiction was dealt with, essentially, by ignoring it. Focusing instead on the technical aspects of health, the LNHO "created a credible illusion that the differences of power structures in and beyond Western societies did not matter and that policies were simply a question of defining and implementing intelligent health policies" (Borowy 2010: 19). In separating out the technical aspects of health as their focus, to the exclusion of contentious issues of colonialism and geopolitics more generally, the LNHO instantiated a tension that would come to characterize much of the work of its successor organization – the World Health Organization.

With escalating tensions in Europe in the lead-up to World War II and the discrediting of the League of Nations for its inability to maintain the world peace it had been founded to protect, the LNHO suffered from diminished credibility and dwindling financial resources. World War II eventually disrupted every function of the LNHO,

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well as through the technical contributions of many individual US-based experts (Borowy 2010; Staples 2006; Weindling 1997).

and other international health bodies too. With only a skeletal staff remaining in Geneva, the LNHO came perilously close to extinction.[17] Only the publication of the *Weekly Epidemiological Report* survived the turmoil of the war - albeit not always weekly, with its coverage greatly reduced, and printed, now, on war-quality paper (Borowy 2009). However, the basic premise of the organization – that health is a matter of international significance and that its promotion requires international cooperation – would be taken up with renewed vigor amidst attempts to institutionalize international cooperation and secure the future of world peace anew in United Nations system.

The World Health Organization and Malaria Eradication

In the wake of the failure of the League of Nations, the post-war conception of international cooperation placed greater emphasis on *universal* participation and representation among nations. This new approach was institutionalized in the United Nations (UN) system in 1945 and included, in its charter, provisions for the establishment for an international health organization. In February 1946, the Economic and Social Council of the UN drafted the constitution of the new health body – it was ratified by July, inaugurating the World Health Organization (WHO).[18] In choosing *World* Health, as opposed to *International* Health as its designator, the new organization sought to convey its aspirations for global reach and universal relevance as well as *health*, not just the absence of disease, as its goal . Adopting an incredibly broad

[17] By June 1940, only Reymond Gautier, a Swiss public health expert, Yves Biraud, a French epidemiologist and a small clerical staff remained in Geneva (Borowy 2009).
[18] Both the LNHO and the Office Internationale Hygeine d'Publique were subsumed into the new organization.

mandate – "the attainment by all peoples of the highest possible level of health" – the WHO proclaimed that health was a fundamental right of every human being.

This ambitious vision for post-war international health was grounded in a professed commitment to principles of universality, political neutrality and scientific and technical excellence. The early WHO was comprised primarily of physicians who identified as medical scientists and who considered their work to be above the messy realm of politics. According to historian Amy Staples:

> When these internationally minded doctors came together within the World Health Organization, they combined the scientifically based authority of their profession with a commitment to apolitical internationalism in order to garner a global authority that facilitated the often unquestioning acceptance of their recommendations and ensured that countries clamored for the organization's advice and assistance (2006:137).

The WHO's commitment to internationalism and universality were such that the governing body of the WHO – the World Health Assembly (WHA) – invited participation from even those delegations that hadn't yet ratified the WHO Constitution and included the eleven countries that didn't belong to the UN General Assembly as equal voting members. As former colonies gained their independence, they too were welcomed in the World Health Assembly, where each country was allocated a single vote, regardless of size or relative might. The sense of optimism that surrounded the creation of the WHO was so great that the Rockefeller Foundation, the most important international health actor before the WHO, gradually withdrew from the world health scene, disbanding its International Health Division, convinced that the "well-being of mankind throughout the world" would be sufficiently attended to by the new WHO. The

Rockefeller Foundation redirected its funding and attentions towards laboratory-based scientific medical research instead (Farley 2004).

However, the unbridled optimism that accompanied the founding of the WHO belied emerging tensions on the global scene – tensions that would inevitably influence international health despite its apolitical aspirations. Three developments, in particular, profoundly shaped the course of post-war international health: the advent of the Cold War, rising US hegemony within the UN system as a whole and WHO in particular, and the emergence of a "development" paradigm directed towards modernizing former colonies in Asia, Africa and Latin America. These developments, together with technical improvements in drugs and insecticides made during World War II would coalesce by the mid-1950s in the World Health Organization's Global Malaria Eradication Program (Packard 1998).

World War II had fundamentally shifted the terrain of world power, resulting in the emergence of the US and the USSR as the two great superpowers. The advent of the Cold War pitted these superpowers against one another and drew each and every nation into the orbit of one of three camps: the Western world led by the US and its NATO allies, the Eastern bloc comprised of the USSR, its satellite states and allies, and the Third World, made up of primarily poor, underdeveloped former colonies whose independence had often only recently been won. In addition to on-going military and political tensions, the Cold War encompassed considerable propaganda wars in which scientific advancements and technological achievements became important ideological victories. International health provided one avenue for the pursuit of such victories, largely within the geographical regions of the Third World. As Marcos Cueto observes:

"International health programs, though an apparent symbol of neutrality and rationality, were actually framed by political ends, especially in the rhetorical and symbolic uses of code terms that validated an ideology of anticommunism"(2007:7). Other historians have shown how both sides of the East/West divide employed metaphors of nature and disease in propaganda campaigns. US government officials, for example, characterized communism as an infectious "virus", whereas Soviet officers characterized capitalism as "in decay", "cancerous" or "rotten" (Barnet 1977). International health programs, especially disease eradication campaigns could be launched simultaneously at the levels of microbes and metaphor. Such programs, according to Cueto, were also intended to create political loyalties and were carried out, in part, to further the political agenda of winning "hearts of minds" in the Third World. The US-led Malaria eradication campaign would constitute one such battle for hearts and minds in which there was considerable metaphorical alignment between the spread of the "enslaving" conditions of malaria and the spread of the "enslaving" effects of communist ideology (Cueto 2007, 160).

Cold War tensions quickly became evident within the institutional structure of the WHO, too. The United States, having refused to join the League of Nations and therefore the LNHO in the interwar years, emerged as a great supporter of the UN system and the WHO after World War II. The US sought to end its isolationism for a number of reasons including a desire to increase its humanitarian image and heighten its global economic and political hegemony. However, a self-interested foreign policy agenda was never far from its humanitarian endeavors: As one U.S representative to the UN put it, "to carry out our own foreign policies under the aegis of the United Nations,

helps America directly, as we then get credit for practicing altruism instead of power politics" (Lodge 1957 quoted in Cueto 2007, 20).

The insertion of US foreign policy objectives into WHO and UN operations did not escape the attention of the Soviet Union, which accused the WHO of acting as an instrument of US imperialism (Cueto 2007, 21). The Soviet Union and a number of allies thus withdrew from the WHO – and the UN system – in 1949. The Director General of the WHO, Canadian psychiatrist Brock Chisholm, remained committed to universalist ideals and actually refused to acknowledge their withdrawal – going so far as to try and hold vacant the Soviet and Byelorussian seats on the executive committee. Later, when the withdrawn countries returned in 1957, the WHO accessed only 5 percent of their dues over the "inactive period" - a gesture intended to encourage their return while maintaining that they had never really "left" the organization at all (Staples 2006, 20,150). However, despite these gestures towards universalism and political neutrality, in reality the democratic and inclusive structure of the WHA was no match for the economic hegemony of the United States, and the agenda of the WHO very quickly came to reflect the foreign policy priorities of the United States.[19]

Finally, the post-war period saw the emergence of a "development" paradigm in which industrialization, state building and modernization were seen as the sole path to progress for countries in Asia, Africa and Latin America.[20] Cold War competition for allies led to the strategic deployment of military support, health assistance, and

[19] While the WHA might democratically decide to undertake certain initiatives, for example, funding was often dependent on the alignment of such initiatives with priorities of wealthy donor countries such as the US.
[20] For recent critiques of this development paradigm see (Escobar 2011; Rist 2002).

development aid. Very quickly, the US began to envision health assistance in the developing world as a desirable prophylactic against the spread of communism. This sentiment is captured in the welcoming address given by James Stevens, the Dean of Harvard's School of Public Health, during a series of lectures on "Industry and Tropical Health". "Powerful Communist forces are at work", he cautioned:

> [T]aking advantage of sick and impoverished people, exploiting their discontent… to undermine their political beliefs. Health is one of the safeguards against this propaganda. Health is not charity, it is not missionary work, it is not merely good business – it is sheer self-preservation for the United States and for the way of life which we regard as decent. Through health we can expand industrial production, strengthen our military forces, and maintain the high morale of all our people. Through it we can prove, to ourselves and to the world, the wholesomeness and rightness of Democracy. Through health we can defeat the evil threat of communism (Stevens1950 quoted in Cueto 2007).

Steven's remarks make clear the perceived connection between sickness, poverty and a vulnerability to the ideas of communism and the importance of health, both domestically and abroad as an antidote to its spread. Similar sentiments were expressed by President Eisenhower in his 1952 State of the Union address. Focusing on the importance of providing health assistance abroad, especially providing US financial support for the WHO, Eisenhower declared that world health was "essential to the fight on reds."[21]

Within this context of Cold War tensions, US hegemony within the UN and WHO, and a new emphasis on Third-World development aid, malaria provided an ideal target for a high profile disease eradication campaign that would produce great impact

[21] This was reported in a New York Times article, aptly titled "Promotion of World Health Essential in Fight on Reds." Quoted in (Cueto 2007, 22).

in the battle for hearts and minds. Firstly, malaria was uniquely associated with a vulnerability to communist ideas: "Malaria…", a Rockefeller officer reported, "helps to predispose a community to infection with political germs that can delay and destroy freedom" (in Cueto, 2007, 34). Secondly, technical advances made during World War II had resulted in new armaments with which to combat malaria, namely the insecticide dichloro-diphenyl-tricholroethane (DDT) and the synthetic anti-malaria drug, Chloroquine. These "magic bullets" made malaria eradication seems like a feasible goal through vertically integrated, technocratic, disease-specific campaigns that required only the minimal involvement of local populations and public health infrastructure. DDT was to be sprayed semi-annually on the internal walls of residential dwellings in order to kill the vector of the disease, the female *Anopheles* mosquito, when she landed to rest upon the walls after feasting on the blood of the home's inhabitants. Chloroquine was to be administered to malaria sufferers in order to eradicate the human reservoirs of the malaria parasite *Plasmodium.* Achieving, and maintaining for three years no infected humans and no infected mosquitoes was the basic hope of the malaria eradication campaign (Cueto 2007, 15).

That the imprint of the military–style disease eradication model of the Rockerfeller Foundation was evident in the WHO's Global Malaria Eradication Campaign is no coincidence. When the WHO campaign was initiated in 1955, the Director General of the WHO was Marcolino Candau – a Brazilian national who had been elected to the post just two years before. Candau had trained at the Rio de Janeiro's School of Medicine before attending the Johns Hopkins University. After returning to Brazil, Candau worked directly with the Rockefeller Foundation on a

military-style malaria eradication campaign in the northeast of the country before moving to Washington DC to serve as the assistant director of the Pan-American Sanitary Bureau. Candau, with his close ties to both the Rockefeller Foundation and the US public health community, had little difficultly mustering support for the WHO's uptake of Global Malaria eradication with US officials. The United States eventually contributed over 85% of the funds required implement the program (Birn, 2009).

Very quickly, however, the goal of Global Malaria Eradication came to be redefined. Amidst concerns that eradication might not be attainable in some regions where malaria was particularly rampant and public health systems entirely absent, the WHA passed a resolution granting that malaria eradication "might not be feasible on every continent" (See Cueto, 2007, 45*fn129*) In particular, almost all of sub-Saharan Africa, the world's most malarious region, was quickly excluded from the whole project of malaria eradication – "Global Eradication" turned out to be not-so-global after all (Birn, 2009). Cueto (2007) has observed how this redefinition of "global eradication" resulted in a "containment" strategy that mirrored the US foreign policy on "containing" communism. US foreign policy accepted the fact that part of the world was under Soviet control and that communism could not be completely eliminated, but held that communism could be contained to those already-contaminated regions. Similarly with malaria – the ultimate goal of malaria eradication was actually to "contain" it within certain areas of the globe – notably, those areas that were not seen as critical in the Cold War battle for the hearts and minds of the Third World. "As a result" Cueto argues, "what might appear as a fantastic operation covering the whole globe was really understood by health experts and politicians as a limited, and defensive intervention"

that was fundamentally intertwined with the Cold War battle against communism (2007, 45).

The reorientation of global malaria eradication towards a policy of containment demonstrates the way in which international health, despites its gestures towards universalism and political neutrality, was ultimately concerned with the vitality of those bodies perceived to be vulnerable to the political germs of communism within the geographic space of third world nation-state. International health did not seek to constitute a universal population as the target of its interventions, nor did it attempt to constitute target populations across all regions of the world equally. Instead, international health interventions were carried out according to a specific geography aligned with the US foreign policy of the "containment" of communism during the Cold War.

The project of malaria eradication came to encounter other obstacles too. Insect resistance to DDT presented a major challenge to the scheme's grand ambitions. Concerns were raised also with the campaign's indifference to basic health infrastructure, its highly specific, vertically integrated design, and with the environmental effects of widespread application of DDT. Amidst limited success despite an enormous investment of budgetary funds, the WHO abandoned the eradication campaign in the late 1960s (Birn 2009; Cueto 2007; Packard 1998).

From Malaria defeat to Smallpox success

The failure of the malaria campaign left the WHO searching for another intervention through which to prove its capabilities and sure up its credibility. With

fewer technical complexities than malaria – no animal host, direct person-to-person transmission, and an easily administrable vaccine – smallpox came to be seen as the ideal candidate for such a campaign. A smallpox eradication campaign had been suggested by the Soviet Union when it returned to the WHO in 1957. But with US attention devoted almost exclusively to malaria, smallpox received no budgetary support. With the conspicuous failings of the US-backed Malaria program, and with the escalating war in Vietnam tarnishing image of the US in the developing world, President Lyndon Johnson sought to display the US's commitment to international cooperation and Third world development by supporting the smallpox eradication campaign. The Soviets supplied the vaccine, the US supplied considerable funds, and the WHO eradicated smallpox from the earth in the late 1970s.

The smallpox campaign has been hailed as evidence of Cold War cooperation and as the quintessential world health success for over thirty years. However, historian Erez Manela has recently demonstrated the campaign's undercurrent of Cold War tensions despite the apparent cooperation between superpowers (Manela 2010). In addition, the campaign was enormously costly to the endemic developing countries who footed two-thirds of the bill, often at the expense of more immediate health needs including water and sanitation. It has also been shown that vaccination practices were "dangerously coercive" in some regions, including military style raids and forced vaccinations in South Asia, for example (Manela 2010; Birn 2009). Nevertheless, the successful eradication of smallpox marked a highpoint for the WHO and the last naturally occurring case of smallpox came to pass in 1977 (eradication was formally certified in October 1980).

Despite the successes of smallpox eradication, the failures of the WHO global malaria eradication prompted reflection on the style in which the WHO carried out its mission. Many of the shortcomings of the malaria program were attributed to its "vertical" orientation as opposed to a more "horizontal" approach favored by WHO officials such as Kenneth Newell (Cueto 2004; Litsios 2002; Newell 1975). Newell and his supporters began campaigning for a more horizontal approach to primary health care addressing the source of disease and ill health in a preventative frame instead of administering curative, technically oriented, vertical disease interventions.

Throughout the 1970s, the WHO also had to contend increasingly with the consequences of decolonization, especially after UN-wide calls for a New International Economic Order (NIEO) in 1974 (Chorev 2012). After the successful political mobilization of the Group of 77 (G-77) and the founding of the United Nations Conference on Trade and Development (UNCTAD), the NIEO further emphasized the obligations of developed countries and the rights of developing countries to promote economic development. Newell's primary health care agenda was embraced by the developing countries, which now numerically dominated the World health Assembly, as it aligned with NIEO-oriented principles of sovereign equity and justice, duties of developed states, economic and social development, economic sovereignty, and universal international organizations (Chorev 2012, 42).

During the mid-1970s, the Soviet Union also adopted primary health care as a priority as they felt it was area in which they could serve as a model (Litsos 2002). They began lobbying the WHO to host a conference devoted to primary health care on Soviet Soil as early as 1970 – but the WHO was reluctant to abide. Director General of the

WHO, Halfdan Mahler, felt that the Soviet model of primary health care was overly centralized and overly medicalized and that there was little to learn from the Soviet system that could then be applied in the developing world (Litsos 2002, 718). Nevertheless, the Soviets persisted and eventually secured the privilege of hosting an international conference on Primary Health Care in late 1978. The conference was planned to coincide with the WHO's thirtieth anniversary, which would be celebrated by a gathering at Alma-Ata, the capital of the Kazakh Soviet Socialist Republic in 1978.

The conference at Alma Ata marked a triumphant moment in the WHO's history. After the defeat of the Malaria Eradication Campaign, the successful eradication of smallpox gave the WHO due cause for celebration. At the Alma-Ata meeting the WHO reaffirmed its commitment to a broad definition of health, laid out in the organization's constitution as "a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity" and, famously, committed the organization to a achieving "health for all by the year 2000". This goal was to be achieved by the implementation of primary health care, i.e. essential health care based on practical, scientifically sound and socially acceptable methods and made universally accessible to individuals and families, at a cost they could afford (WHR 1998, 141).

After Alma-Ata – the beginning of the end of international health

Although the conference at Alma Ata represented a high point in the history of the WHO, it also marked the beginning of a long, slow decline in the organization's prominence. After Alma Ata, the goal of "health for all" came to be seen by influential

parties such as the United States Government, UNICEF and the Rockefeller Foundation as overly ambitious and unrealistic (Cueto 2004; Brown, Cueto, and Fee 2006; A.-E. Birn, Pillay, and Holtz 2009). Without disavowing the *goal* of health for all, they began to advocate a different means by which to accomplish that goal. As opposed to the Alma Ata vision of what was now termed "Comprehensive Primary Health Care" (CPHP), "Selective Primary Health Care" (SPHC) was articulated as a vision of specific, low cost technical interventions that were limited in scope and easy to monitor and evaluate (Walsh and Warren 1979; Balabanova et al. 2013). Specifically, SPHC advocated a four-pronged approach to reducing child mortality known by the acronym GOBI: Growth monitoring (to ensure early detecting of childhood malnutrition), Oral Rehydration Solutions (for diarrheal diseases), Breastfeeding (for improved infant survival and natural family planning) and Immunization against certain communicable diseases. While successful in improving child survival, the SPHC approach drew criticism from advocates of a broader-based approach of CPHC and reignited old verticalist vs. horizontalist tensions among the world health community. The GOBI initiatives also did nothing to address the health of adults, leaving ill-health after the age of 15 more or less unaddressed.

Also in the early 1980s, the World Bank began to involve itself in international health – initially with population control and then with lending for health and nutrition as a means to advancing economic growth. But as the Bank began to make direct loans for health, it demanded more "efficient" use of resources and called into question the balance between public and private sectors in financing for international health. The

pressure for efficiency came also from the global financial downturns of the 1980s and an increasing scarcity of resources for world health.

Throughout the 1980s the prestige of the WHO started to diminish. It has been argued that the WHO was either unwilling or unable to respond to "the new international political economy structured around neoliberal approaches to economics, trade and politics." (Brown, Cueto, and Fee 2006, 68). As conflicts over Comprehensive vs Selective Primary Health care models raged, W. Henry Mosely – a professor of population dynamics at Johns Hopkins University and consultant to the World Bank – proposed a "categorical" approach to health problems, a middle way between the two opposed primary health care approaches. "To give practical example where there has been much global experience", he argued:

> [W]e have learned that addressing that problem involves far more than setting up clinics and delivering medical technologies. It requires a multi-faceted approach ranging from influencing top level policymakers and community leaders, to re- training and reorienting the medical profession, to assisting the communities in organizing for the pro- vision of contraceptive supplies and facilities, to providing a wide range of social support to families and women to help them in making informed choices for their own health and welfare and for that of their children. Those of us who have been in the family planning movement hardly see this as a program where we expect "relatively immediate and visible results". At the same time, looking at the situation on a global scale over a two-decade timeframe, one can hardly deny that this categorical program effort, coupled with the effective technologies we have avail- able, has truly achieved remarkable results in dozens of countries around the world…I would consider the family planning movement as a categorical program that clearly stands somewhere between what is defined as comprehensive primary health care and selective primary health care (W H Mosley 1988, 907).

The categorical approach suggested by Mosely proposed a middle way between the debates of comprehensive and selective primary health care.

The categorical approach also positioned the World Bank – which had carried out the vast majority of population control projects over the preceding decades – as the institutional actor with the most relevant experience for future categorical health interventions. Furthermore, it expanded the appropriate positioning of health projects vis-à-vis state governments beyond the ministry of health. As Mosely continued in his article:

> [A categorical approach] takes a middle ground by defining a series of tasks or strategies that are focused and manageable. While individual government institutions such as health ministries necessarily operate in only one sector, taking a problem solving approach does not necessarily imply that the strategy will be a top-down effort though this may be appropriate in some circumstances where the intervention can be imposed as with smallpox eradication. The tasks may just as well include the establishment of community organizations to assure autonomous management of specific activities and inevitably must include information, education and communication programs where personal behavioral change is essential for effective implementation, as with immunization activities. The point is that a categorical program is problem-oriented that sets out some specific goals and tasks with measureable end- points and permits one to relate inputs to outputs and impact.

Mosely's efforts to develop a categorical approach to prioritization spurred a number of research at the World Bank, including the Global Burden of Disease (GBD) study, the Disease Control Priority (DCP Project) and the World Development Report 1993: Investing in Health. I detail the significance of each of these in the following chapter.

The debates that riddled WHO during the late 1970s and 1980s were not only ideological. Disputes over budget contributions, especially in the wake of the essential medicines list eventually led the Health Assembly to freeze member state contributions to the budget all together (Greene 2011; Brown, Cueto, and Fee 2006; Chorev 2012). This budget freeze remains in effect today – although extra-budgetary contributions

made by wealthy "donor" countries and organizations like the World Bank have greatly increased. Critically, however, the democratically structured Health Assembly has retained authority *only* over the regular budget, while "donors" countries, like the US unilaterally decide how their contributions are dispersed. The increased use of extrabudgetary funding has thus created a way for wealthy donors to bypass the democratic process of the Assembly, which is numerically dominated by low and middle-income countries.

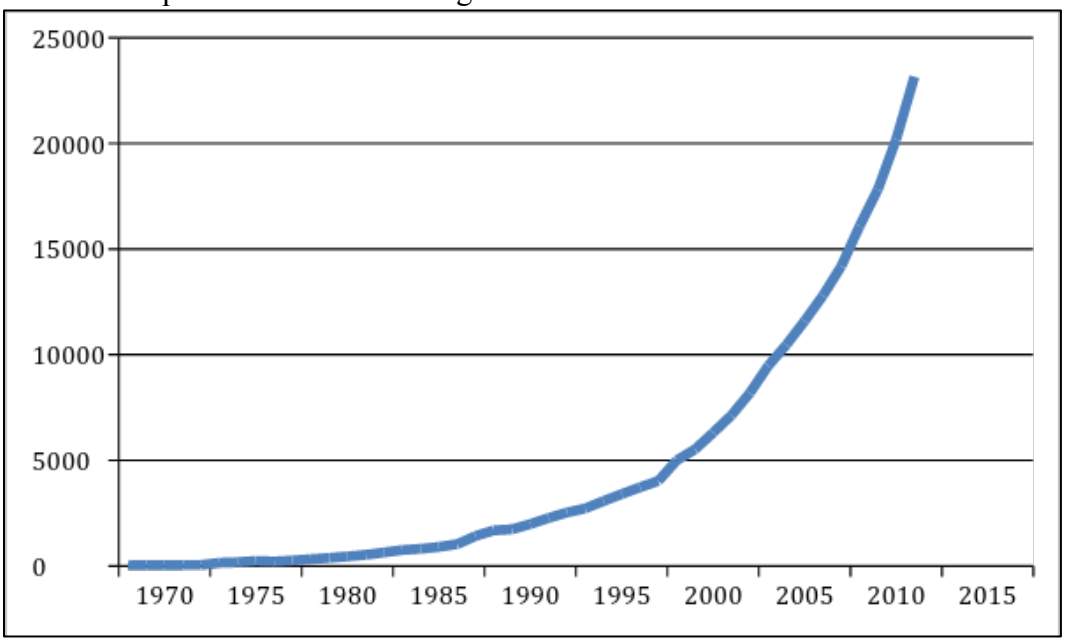
CONTEMPORARY NEOLIBERAL GLOBAL HEALTH

The closing decades of the 20th century and the opening years of the 21st century witnessed the meteoric rise of "global health". In contrast to the earlier designations "international public health" and "tropical medicine", global health has emerged over the last few decades as the preferred authoritative term for attempts to address matters of health and disease on a transnational scale (Brown, Cueto, and Fee 2006; Fried et al. 2010; Bashford 2006; Kleinman 2010; Anderson 2014; Banta 2001; Lakoff 2010; McGoey, Reiss, and Wahlberg 2011; Koplan et al. 2009). Taken up by organizations ranging from universities and research institutions to philanthropic foundations and government departments, global health encompasses diverse, sometimes competing, objectives including health promotion, economic growth and poverty alleviation, increased domestic security and strategic foreign policy (Dwyer 2005; Institute of Medicine 1997; Janes & Corbett 2009; McCoy, Chand, & Sridhar 2009). The diversity of global health makes delineating its emergence and subsequent rise a difficult task.

Nevertheless, one quantitative measure is indicative: references to "global health" in the PubMed database.[22]

Hosted by the United States' National Library of Medicine at the National Institute of Health, the PubMed database includes over 23 million citations from the US and international biomedical, life science and public health literature. Searching for variants of "global health" reveals the following trend: after emerging in the late 1980s, references to global health grew steadily throughout the 1990s before taking off in the 2000s (see Graph 1).

Graph 1.1: References to "global health" in the PubMed database



"Global health" has now accumulated the same number of citations during the first four years of this decade as it did during the previous decade and more than five times the

[22] This exercise updates and extends a similar one carried out by (Brown, Cueto, and Fee 2006).

number of citations during the first fourteen years of this century than during the entire second half of the last (see table 1.2).[23]

Table 1.2: Reference to "global health" by decade
Produced with data drawn from PubMed

Year range	References to "Global Health"
1940-1949	14
1950 – 1959	67
1960 – 1969	190
1970-1979	1,248
1980-1989	7,250
1990-1999	27,170
2000 - 2009	90,684
2010 – May 2014	89,487

Another illustrative representation of this shifting terminology comes from the Google Ngram application, which tracks the relative incidence of terms among the approximately 20 million English language works that comprise the Google library corpus (see Figure 1.1). We can see that from the turn of the 20th century, the term "tropical medicine" increased in popularity, followed, especially during the 1940s, by the term "international health". The third term, "global health" was virtually unused throughout most of the twentieth century, but exploded onto the scene with exponential growth beginning in the early 1990s. "Global health" has now surpassed the popularity

[23] Of course, the total number of publications included the PubMed database has also increased each year. The *rate* of increase, though, has been much slower.

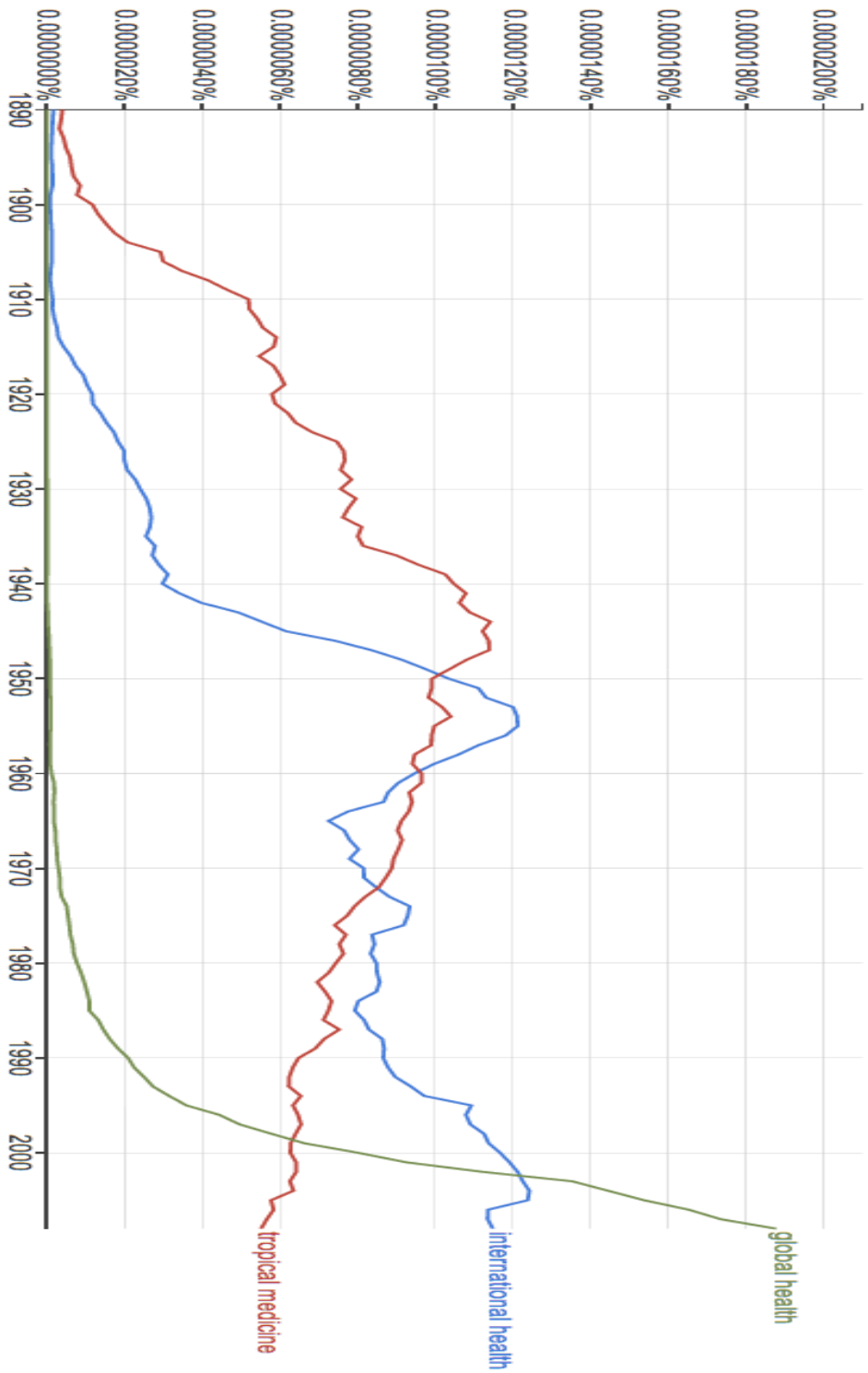


Figure 1.1: Tropical medicine, international health, global health. See (www.books.google.ngrams).

of both “international health” and “tropical medicine”, even when the two earlier designations are combined.

While the shifting terminology is interesting in itself, the accompanying historical and organizational changes have rightly received more scholarly attention. The declining role of the WHO dating from the budget freezes of the 1980s and the relative ascendance of the World Bank and its associated structural adjustment policies in world health affairs are often flagged as heralding the transition from international to global health. Early in the decade, the extra-budgetary funding for the WHO actually surpassed the organization’s regular budget - skewing the balance of power over global health priorities towards wealthy donors. Against this backdrop, the World Bank “moved confidently into the vacuum created by an increasingly ineffective WHO” (Brown, Cueto, and Fee 2006, 86). Although the Bank’s initial interest in health extended only to population control, by the early 1980s the newly founded Population, Health and Nutrition Department began lending for stand-alone alone health programs on the rationale that enhanced health and nutrition would lead to increased economic growth (World Bank 1980). However, with World Bank money came their associated structural adjustment policies, which, in the domain of health focused on more efficient use of available resources and an increased role for the private sector in financing health services – all in service of promoting health for economic growth. While this approach drew much criticism, it did not stem the influence of the Bank and by 1990 World Bank lending for health surpassed the entire WHO budget (Brown, Cueto and Fee 2006).

From the late 1980s to the late 1990s, Bank lending for health, nutrition and population projects grew sevenfold – with a growing proportion of these loans made

with the explicit intention of reforming the structure of health systems. During the late 1970s, fewer than 10% of World Bank Population, Health and Nutrition loans included "systemic" objectives. By the late 1990s, this number had risen to well over 50% (Fair 2008, 10). Finally, a new player entered the world health scene radically altering its dynamics: the Bill and Melinda Gates Foundation. The Gates Foundation began its global health operations in 1994 bringing with it an initial endowment of $30 billion dollars.[24] Since then, the Gates Foundation has dispersed grants worth over $15 billion dollars for global health. With these three developments, institutional transformation to global health was complete.

The transition from international to global health is usually attributed to processes of neoliberal globalization, especially to the rise of a set of neoliberal economic policies known collectively as the Washington consensus (Brown, Cueto, and Fee 2006; Koplan et al. 2009; Thomas and Weber 2004; Chorev 2012). The 1993 publication of the World Bank's World Development Report *Investing in Health* is frequently identified as a key moment in this historical shift (Brown, Cueto, and Fee 2006; Chorev 2012; World Bank 1993). The legacy of *Investing In Health* has been hotly disputed: it is both praised for having initiated an "unprecedented era of growth and innovation in development assistance for health", and reviled for having prompted a program of neoliberal reform of health systems, often to the detriment of the health of the poor in developing countries (Blanchet et al. 2013,1; Jamison et al. 2013). However, both of these evaluative stances, though contradictory, focus on the impact of the report

[24] Crucially, Bill and Melinda Gates made the decision to devote their philanthropic billions to the cause of global health upon reading the World Development Report 1993: Investing in Health, which is the subject of the next chapter (Norheim 2014).

on the structure of the field of world health, i.e. on the dominant institutional actors, the structures of global health delivery, and the financing of health care services. Frequently left out in these accounts is attention to the *epistemological* importance of *Investing in Health*, that is, to how it has shaped the mode of rationality that underpins the health of the global population as a scientific and political problem. As I argue in the next chapter, this new mode of rationality can be seen in a lesser-known but equally important dimension of the *Investing in Health* report: its introduction of the Disability Adjusted Life Year (DALY) metric.

Even though it is frequently cited as a landmark *global* health intervention, at first glance, the FCTC treaty doesn't seem to fit comfortably with the characterization of the contemporary global health landscape given above. It was negotiated under the auspices of the now-decentered WHO and operates through the national governments of its member-state parties – making it very much an *inter*national intervention. It also deals with non-communicable or lifestyle diseases (at least those caused by tobacco use), all in a public health frame in which questions of privatization or structural adjustment are largely peripheral. In light of my general characterization of the field of global health, the FCTC presents a puzzle: Why tobacco? And why now? The chapters to come will seek to make sense of this puzzle.

CONCLUSION

In this chapter, I have presented a history of attempts to deal with collective health concerns through the eras of colonial tropical medicine and Cold War international health as critical antecedents to the contemporary era of global health.

Throughout, I have remained attuned to the key elements of Foucault's concepts of *biopower* by attending to the historically specific and geographically embedded forms of knowledge, regimes of authority and practices of intervention that were seen as legitimate in each of these eras of world health. Put differently, I have focused on how in each of these eras the science and practice of world health have been *coproduced.*

During the first era, colonial tropical medicine drew on the new fields of parisitology, germ theory and epidemiology and coupled them with extant colonial structures of authority in order to attend to the vital needs of white bodies in tropical lands. The founding of the London School of Tropical Medicine captures the essence of this era. Not long after the establishment of the London School, the creation of the Rockefeller Foundation's International Health Division began to shift the emphasis of world health away from tropical medicine towards a more internationalist approach – one that would gain increasing momentum after each of the World War, reaching its peak in the geopolitical climate of the Cold War. Cold War international health quickly became aligned with US foreign policy objectives and focused on the vitality of those bodies perceived to be vulnerable to the spread of communism within the geographic space of the Third World. The tensions within the World Health Organization's Malaria Eradication Program are emblematic of this era. In the chapter that follows I advance the argument that one of the key features of the contemporary global health era is its particular economization of life that can be observed in its quantification of health and disease, valuing of life and governing of health according to a logic of cost-effective interventions. The rise of neoliberalism as the global health era's guiding philosophy, the constitution of a "global population" comprised of economically productive bodies

as the target of global health interventions, and the modes of subjectification produced by this new approach to governing global health are the subject of the following chapters.

CHAPTER 2:

QUANTIFYING DISEASE, ECONOMIZING LIFE: NEOLIBERAL RATIONALITY AND THE DISABILITY ADJUSTED LIFE YEAR METRIC

My own expectation is that this series will, over a decade or two, initiate a transformation of health policy analysis analogous to that initiated for economic policy by the introduction of NIPAs in the late 1930s.[25]

- *Dean Jamison, lead author of the World Development Report 1993: Investing in Health in his foreword to the Global Burden of Disease and Injury Series*

In the previous chapter, I sketched the history of attempts to deal with the problem of health on a transnational scale through three eras: colonial tropical medicine, cold war international health and contemporary neoliberal global health. I illustrated how, during each of these eras, developments in the practice of world health were intimately tied to the science of health and hygiene, to geopolitical transformations at both the national and transnational level, and ideological contests on the world stage. The period of cold war international health, for example, saw the promotion of a seemingly universal campaign against malaria that was cast as a technical intervention against a parasitic scourge. But, as I demonstrated, beneath this public face lay the subterranean machinations of East-West geopolitical tensions, capitalist-communist ideological contests and socio-technical recalcitrance in the form of insecticide resistance. Even in this broad overview, the fundamental interconnectedness of science

[25] NIPA is the common acronym for National Income and Product Accounts, the double-entry system of accounting for national level income and expenditures in which Gross Domestic Product (GDP) features prominently (Hirschman, forthcoming).

and politics of world health is apparent. In this chapter, I return to examine in greater depth the coproduction of science and politics in the contemporary global health era using the case with which this dissertation is centrally concerned: the World Health Organization's Framework Convention on Tobacco Control (FCTC).

The adoption and ratification of the FCTC treaty has received much publicity. The treaty was unanimously endorsed in the World Health Assembly in May 2003 and entered into force in February 2005, ninety days after the fortieth member-state ratification. Since then, a further 140 member states have become parties to the convention making it one of the most widely - and rapidly - adopted treaties in the history of the United Nations. The success of the treaty is almost universally attributed to its "overwhelming evidence base"; in forums from treaty negotiations and public speeches to official reports and press releases, the noun "treaty" is almost always modified by the adjective "evidence based". Much like the term "scientific", "evidence based" here functions to confer legitimacy on the treaty by appearing to remove it from the sordid world of politics and to bestow upon it the mantle of scientific objectivity. The picture that then emerges is that the science behind global tobacco control is unequivocal and that the strength of the scientific evidence has been sufficient to triumph over any political resistance to the treaty's passage. As Brundtland put it: "Tobacco control can be achieved when scientists communicate with policymakers, when policymakers act on science, and when the media and NGOs are effective. It doesn't matter if a country is a major tobacco producer or a consumer, from the North or the South, or from the developing or developed world" (J. de Beyer and Brigden 2003).

In contrast, much work in the field of Science and Technology Studies has demonstrated how science and policy – or more generally, knowledge and power – are coproduced (see Introduction). In this chapter I begin my analysis of the coproduction of global tobacco science and policy by focusing on the creation of the *evidence base* of global health, in general, and of global tobacco control, in particular. In the chapters that follow, I focus on how this evidence base was mobilized in support of the FCTC. I also advance my argument that attempts to govern the health of the global population in the contemporary era of global health are underpinned by a particular *economization of life*.

As I argued in the previous chapter, the publication of the World Bank's World Development Report in 1993: *Investing in Health* is frequently identified as a key moment in the transition to the contemporary global health era (Brown, Cueto, and Fee 2006; Chorev 2012; World Bank 1993). And the report has had considerable impact of the structure of the field of global health, i.e. the dominant institutional actors, the structures of global health delivery, and the financing of health care services. However, less attention has been paid to the *epistemological* importance of *Investing in Health*, that is, to how it has contributed the mode of rationality that underpins the health of the global population as a scientific and political problem. Here I argue that the mode of rationality that the *Investing In Health* report codified can be seen in its introduction of the Disability Adjusted Life Year (DALY) metric.

The DALY metric is a summary measure of population health developed to calculate the incidence of health and disease at the global aggregate level: the so-called

"global burden of disease" (Murray and Lopez 1996a).[26] It is a decremental measure equivalent to the loss of one year of life lived in perfect health. The DALY metric was designed to fulfill two primary purposes. First, it was intended to account for the "full loss of healthy life" due not only to death, but to disease and disability as well, by measuring both mortality and morbidity in the same unit of analysis. Second, it was intended to facilitate the use of cost-benefit analysis in prioritizing potential health interventions in the units of dollars spent per DALYs gained. In this way, the DALY metric would facilitate the optimization of global health by aiding national governments direct scarce health resources towards "essential health services" in the most economically rational way (Jamison, Mosely, et al. 1993). But far more than just facilitating cost-benefit calculation and economic rationalization, I argue that the DALY metric accomplishes an *economization of life* by imagining health as a form of human capital and, as the very title of the World Bank report suggests, as a site of *investment.*[27]

Investing in health then becomes an economic project that is oriented towards the speculative future, known through a range of forecasting techniques and concerned with optimizing rates of return on investment in life itself, especially through practices of *self-investment*. Crucially, the logic of investing in health prioritizes those public

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[26] It is worth emphasizing that the Global Burden of Disease (GBD) study for which the DALY metric was developed explicitly sought to ascertain the health of the global, rather than national or subnational, population – an undertaking that was unprecedented at that time. Thus the GBD study and DALY metric are key moments in the constitution of a biopolitics that is truly global in its reach. See (Christopher J.L. Murray and Lopez 2013) for a history of the GBD study.

[27] By claiming that the DALY metric accomplishes an economization of life, I do not mean to suggest that *before* the DALY metric, life was not also *economized* in various ways. The social insurance mechanisms of the welfare state are but one example. Nevertheless, the *form* of economization under neoliberalism is distinct: it replaces state investment via social insurance with individual self-investment.

health strategies, like tobacco control, that attempt to intervene upon the health behaviors of individuals in order to make them more health-maximizing, i.e. its primary governmental strategy is *self-governance.* I argue that in addition to the semantic shifts and neoliberal structural reforms, this new way of knowing and governing the health of the global population is key in understanding the transition from international to global health at the end of the 20th century. Put differently, the introduction of the DALY metric by the *Investing in Health* report represents both one instantiation of a neoliberal mode of rationality and the creation of a novel biopolitical technology of power that has reshaped the governance of global health over the last 25 years. Crucially for the case of the FCTC, the DALY metric also brought the "tobacco epidemic" into sharp relief. As a result, DALY calculations provided much of the "evidence base" for the evidence-based FCTC treaty. The development of the DALY metric bolstered global tobacco control efforts – as I describe in the following chapters - and contributed indirectly but significantly to the eventual passage of the FCTC treaty.

Quantifying the Tobacco Problem: Epidemiology and Economics

As I argued in the Introduction to this dissertation, the linear picture of a progression from unequivocal science to incontrovertible policy has been destabilized by much work within the field of Science and Technology Studies. Drawing on a range of empirically grounded studies, scholars working in the "idiom of coproduction" have argued that despite the public presentation of "objective" science, the ways in which we come to know the world are fundamentally inseparable from how we chose to live in it (Latour 1993; Jasanoff 2004; Oudshoorn and Pinch 2005). Knowledge and power,

science and policy or the natural and social orders are mutually implicated at every level.

Nevertheless, when presented in public, the political dimensions of scientific evidence are frequently erased. And nowhere does the public presentation of science seem more objective - and therefore more detached from any social or political dimensions - than when the science in question is presented in the form of numbers. Numerical representations embody what Daston and Galison call the *"view from nowhere"* - the archetypal form of mechanical objectivity (Lorraine Daston and Galison 1992; Porter 1996).[28] Yet even numbers contain an important social dimension.

Sociologist Wendy Espeland and colleague Mitchell Stevens, building on earlier work by STS scholars such as Theodore Porter, have drawn attention to the social and political dimension involved in processes of quantification and commensuration (Espeland and Stevens 2008; Espeland and Stevens 1998. See also Porter 1996). The proliferation of numbers, they argue, often serves to sustain the dual pretense that facts and values can be separated from one another and that politics can be rendered purely technical through processes of quantification. In contrast to this pretense, they argue, quantification and commensuration radically transform the world by creating new categories, new relations of authority and new interpretive frameworks and by backing them with the weight of powerful institutions (2008, 323). Taken together, co-production and the sociology of quantification draw our attention to the simultaneous

[28] In his history of the emergence of standardized forms of measurement and their role in securing different types of public accountability, Theodore Porter differentiates between 'mechanical objectivity' – secured through impersonal rules and quantitative calculations – from 'disciplinary objectivity' arrived at through professional consensus and 'absolute objectivity' i.e scientific realism. See (Porter 1996, 3-4).

contribution of social and political dimensions to the production of scientific knowledge as well as the erasure of these same elements from the public face of regulatory science. The production of numbers by global knowledge-based institutions presents a particularly fruitful site, then, for studying the often invisible social and political dimensions with which they are co-produced.

In the case of the FCTC treaty, even though the treaty is frequently justified by the rhetorical power of its "evidence based", what, precisely, this "evidence base" consists of is chronically underspecified. During my fieldwork for this project, certain pieces of evidence were repeatedly invoked in support of the treaty and the cause of global tobacco control more generally. At international tobacco control conferences, in negotiation sessions of the FCTC treaty Conference of the Parties, and in presentations at various tobacco control events, I observed a range of arguments demonstrating both the severity of the threat presented by the global tobacco epidemic and the necessity of interventions to curb its further spread. Although there were variations in the exact evidence presented, they clustered around two *types* of threats: epidemiological and economic.

Both of these types of arguments are powerful, in part, due to their sheer scale.[29] Tobacco is now said to be the leading preventable cause of death and disease worldwide, with dramatic increases in tobacco-related mortality anticipated for the near future. By the late 1990s, the World Bank proclaimed:

> Smoking already kills one in 10 adults worldwide. By 2030, perhaps a little sooner, the proportion will be one in six, or 10 million deaths per

[29] Interestingly, though, I found that during my fieldwork I gradually became numb to the desired affect of these numbers, due largely to their repetition *ad nauseam*

> year—more than any other single cause. Whereas until recently this epidemic of chronic disease and premature death mainly affected the rich countries, it is now rapidly shifting to the developing world. By 2020, seven of every 10 people killed by smoking will be in low- and middle-income nations (World Bank 1999, 1).

These World Bank numbers were still routinely referenced in the late 2000s, often as almost obligatory opening remarks to conference talks, public lectures, and in arguments during treaty negotiations. That "tobacco is leading preventable cause of death and disease worldwide", that "tobacco kills one in 10 adults" and that this disease burden "falls disproportionately on low and middle income countries" were frequently remarked (Field notes 3/9/2009; 6/11/2009; 1/21/2010; 11/3/2010; 11/10/2010). The *future* scale of tobacco mortality was also used as a call to action; "100 million people were killed by tobacco during the 20th century", one common refrain went. But without adequate tobacco control interventions, "an additional one billion tobacco-induced deaths are expected during the 21st century (Proctor 2011).

In addition to the burden of death and disease caused by tobacco, the economic burden of tobacco was also invoked. Tobacco was frequently cited as a "net loss" to both national economies *(plural)* and the global economy (*singular*). A 1999 WHO report entitled "Confronting the Epidemic" argued that tobacco use contributes to net economic losses – with health care costs for tobacco related illnesses costing between .7 to 2% of GDP (WHO/NCD/TFI/99/12). More recently, a World Economic Forum report into the economic impact of non-communicable diseases suggested that diseases caused by tobacco, alcohol and poor diet will contribute losses to the world economy of US $30 billion over the next 20 years (From Burden to 'Best Buys' 2011). These

figures were routinely mobilized to justify governmental intervention in the tobacco epidemic.

Finally, epidemiological and economic figures were intermingled, for example to make the argument that global tobacco control was *underfunded* as a global health priority. Compared to the global burden of disease caused by tobacco, the amount of funding devoted to countering tobacco use was claimed to be dismal. (See Figure 2.1). While these numbers are overwhelming in their scale, the fact that these *types of numbers* - death tolls and economic costs - are presented alongside one another is no accident. Instead, as I show in this chapter, the particular intermingling of disease projections, economic predictions and governmental strategies that we see in attempts to combat the global tobacco epidemic is the result of a particular way of quantifying the global burden of disease, valuing life according to an economic logic, and governing health through cost-effective interventions that has emerged over the last three decades. The intermingling of epidemiology and economics or, more broadly speaking, or the vital properties of populations and their effect on population productivity, is not specific to tobacco control. Instead, this intermingling has been theorized in more general terms by Michel Foucault under the rubric of "biopolitics" and "biopwer" (see previous discussion in the Introduction and Chapter 1).

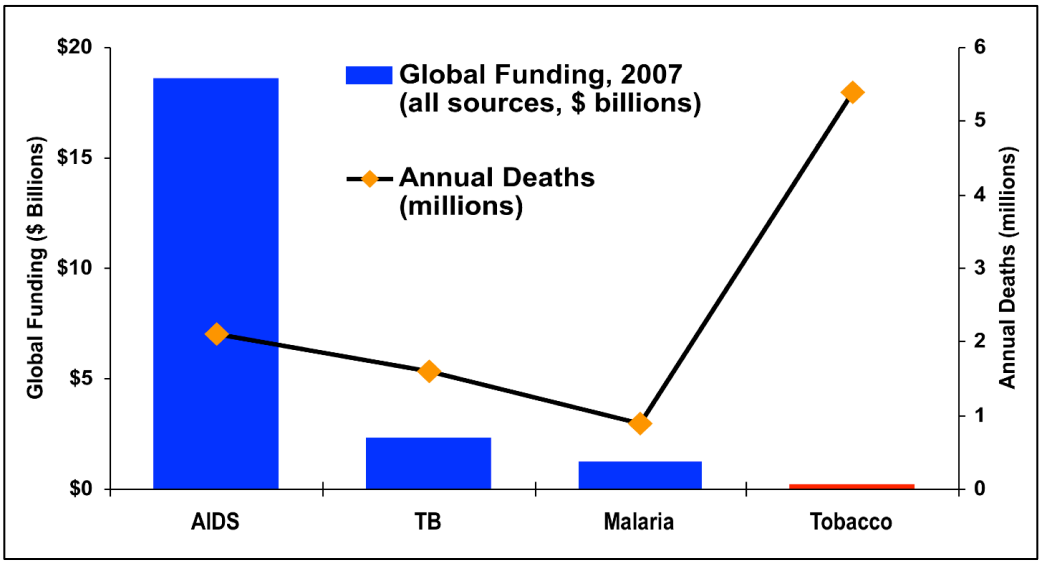

Figure 2.1: Global health funding vs global burden of disease
This version from
http://www.researchamerica.org/uploads/Frieden.Hillbriefing.presentation.11.18.08.ppt.

BIOPOLITICS, GOVERNMENTALITY, NEOLIBERALISM

In his lectures at the College de France in 1978-1979, French philosopher Michel Foucault proposed to develop a genealogy of his analytic category "biopolitics" (Foucault 2010). Quickly, though, his analysis turned to liberalism and neoliberalism using "governmentality" as a guiding concept (Foucault 2010; Lemke 2001). While this shift is often interpreted as a change in focus, Stephen J. Collier has argued that Foucault's analyses of biopolitics and liberalism are fundamentally interconnected: Foucault found in liberalism the initial articulation of a "new kind of governmental reason that understood individuals and collectivities not as legal subjects (of sovereignty) or docile bodies (of disciplinary power) but as living beings" (2011, 16).[30]

[30] Importantly, the bio- of biopolitics refers not only to the biological characteristics of populations, but to their economic and social properties as well – to the figuration of man (sic) at the 'finitudes of life, labor and language'. See (Collier 2011, 17; Foucault 2010, 79).

Biopolitics, Collier concludes, is neither a form of governmental reason nor a logic of power, but a novel "problem-space" upon which the political reason of liberalism came to bear: a problem-space concerned with the vital characteristics of populations (Collier 2009; Collier 2011).

Central to Foucault's analysis of liberalism is the concept of "governmentality". At its core, governmentality encompasses two interrelated ideas. The first is that techniques of power and forms of knowledge are mutually constituted and co-determine each other's existence. This mutual entanglement is captured in Foucault's use of the term "power-knowledge" but also in his idea of a "political rationality". As Thomas Lemke puts it, "a political rationality is not pure, neutral knowledge which simply "re-presents" the governing reality; instead, it itself constitutes the intellectual processing of the reality which political technologies can then tackle" (2001, 191). The implication here is that it is not possible to study any particular technology of power or form of knowledge without also analyzing the associated mode of reasoning or governmental technique. They are co-produced, co-determined, intermingled, interdependent etc.[31] The second key idea behind governmentality is that in modern societies "government" does not occur exclusively through the state – although this how the term is frequently used in common speech – but through processes of *self*-government as well. Thus Foucault defines "government" as the "conduct of conduct", which incorporates everything from the government of others all the way through to the government of the self (Burchell, Gordon, and Miller 1991, 2; Foucault 2003,191).

[31] This aspect of Foucault's argument I see as congruent with more recent work in the idiom coproduction (Jasanoff 2005; Jasanoff 2004; Oudshoorn and Pinch 2005; Latour 1993).

While his 1978 lectures traced the genealogy of governmentality back to the Ancient Greeks, in 1979 he turned his attentions to *neoliberal* governmentality (Foucault 2010). The neoliberal form, he argued, includes a distinctly American version articulated through the work of a range of Chicago School thinkers but most centrally by economists Theodore Schultz and Gary Becker (Schultz 1961; Becker 1962). According to Foucault, Chicago-style neoliberalism is characterized by the consistent expansion and application of economic thinking to all spheres of social activity. He argues, "American neo-liberalism seeks…to extend the rationality of the market, the schemas of analysis it offers and the decision-making criteria it suggests, to domains which are not exclusively or not primarily economic: the family and the birth rate, for example, or delinquency and penal policy" (Foucault 2010, 323). Instead of seeing the economy as one domain among many, American neoliberalism depends on the application of an economic lens across the entirety of human existence – including the biopolitical domain of the living characteristics of populations. Within a neoliberal political rationality, the primary mode of decipherment of the world, that is, the way that reality, social activity and human action are all rendered both intelligible and governable, is economic.[32]

This expansion of the economic form holds consequences not just for the objects of neoliberal governmentality but for its *subjects* as well – for the particular *figure of the human* that it envisions. Just as all domains of social activity and human life come to be deciphered through an economic lens so too does the individual come to be seen

[32] A similar argument has more recently been made by a range of scholars carrying out interdisciplinary empirical work on quantification and economization. See (Çalışkan and Callon 2009; Callon and Muniesa 2005; Mitchell 2006; Murphy 2013; Espeland and Stevens 2008)

primarily as an economic agent (Foucault 2010). However, under the neoliberal thought of the Chicago School, human action isn't seen as driven by the immediate gains of economic exchange, which had been the case with the *homo oeconomicus* of classical economics. Instead, the neoliberal vision of rational action incorporates a re-jigged temporality such that *future* benefits are brought into the present weighting of costs and benefits through a logic of self-investment. The site of self-investment is one's own human capital, defined by Gary Becker as consisting of the embodied attributes of individuals that make them economically productive (Becker 1962, 9). Instead of the worker of classical economics who sells their abstracted labor for a wage, the agent of human capital *invests* in their own embodied knowledge, capabilities and importantly for my argument, their *health*, to secure a future return-on-investment in the form of an income stream. Social activity is still viewed in economic terms, human behavior still predicated on cost-benefit calculating rational actors, but under the logic of neoliberalism, *homo oeconomicus* becomes a future-oriented self-investing entrepreneur of the self, concerned with optimizing the return on investment in his or her own embodied human capital.

Governing the conduct of this neoliberal *homo oeconomicus* then, consists in altering costs and benefits in such a way as to "make rational" the desired form of future-oriented self-optimizing conduct (Lemke 2001, 200).[33] Of course, governmental

[33] David Reubi has used the case of the FCTC and tobacco taxation to raise questions about the scholarly reliance on theories of neoliberalism in analyses of contemporary global health (Reubi 2013). Reubi seems to see taxation and neoliberal rationalities as mutually exclusive whereas I understand taxation to be neoliberal strategy when conceptualized, as in the case of tobacco taxation, as correcting for market failure and as altering the cost and benefits in such a way as to

rationalities have always incorporated certain prescriptions for the behavior of populations. What is distinct about neoliberal governmentality is the alignment it achieves between its prescriptions for individual conduct and its prescriptions for minimal state provision. Neoliberalism as a political rationality, then, configures the self as an entrepreneur and the state as a firm and prescribes the conduct for both according to a logic of optimizing future rates of return on investment, especially through practices of *self-investment.* In the biopolitical domain, this equates with an emphasis on those (cost-effective) health interventions directed towards encouraging individuals to enact health-maximizing behaviors.

In the sections that follow, I analyze the DALY metric as one instantiation of this neoliberal political rationality. I show how the DALY metric is itself a technology of power that inscribes a neoliberal political rationality into the evidence base of the contemporary global health regime. First, I explain the particular historical context out of which the DALY metric emerged and the problems to which it was proposed as a solution. I then turn to the metric's technical dimensions to illustrate how DALY calculations not only quantify the global burden of disease, but also accomplish an *economization of life.* I then discuss in greater detail the political rationality that underpins DALY calculations, focusing on its reconfiguration of life as *life/time* and the particular figure of the human as *homo oeconomicus* that it presupposes. I conclude by illustrating how the DALY logic brought tobacco control onto the global health agenda.

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make rational the desired form of self-optimizing behavior. I discus this point further in Chapter 5.

THE WORLD BANK AND WORLD HEALTH

As I discussed in the previous chapter, throughout the 1980s and 1990s, the field of international health was beset by a number of tensions: debate over comprehensive vs. selective primary health care, vertical vs. horizontal approaches to health interventions, and budgetary crisis as well as crises of legitimacy at the World Health Organization. Against this backdrop, the World Bank, whose involvement in world health initially extended only to population control, began making stand-alone loans for health programs on the rationale that enhanced health and nutrition would lead to increased economic growth (World Bank 1980; World Bank 1991; World Bank 1993).

However, the World Bank was also concerned to define a set of "essential health services" – designed to address the major causes of disease in the most cost effective way as part of its "categorical" détente between comprehensive and selective primary health care approaches to world health. But in trying to determine which diseases to target and which health services to finance, the Bank encountered a high degree of uncertainty due to concerns about an impending "epidemiological transition". In the decades after World War II, the attention of development demographers was focused largely on ideas about demographic transition, especially at the nexus of population control, fertility decline and "modernization". By the 1980s and early 1990s, considerable interventions had been made into the demographic profiles of many post-colonial nations. Fertility was largely falling and child survival, rising. But this set of successes raised concerns over the coming of an "epidemiological" or "health transition" (Omran 1971). A pre-transition environment dominated by high fertility and high mortality was seen to be giving way to a population profile of low mortality and

low fertility with an accompanying shift in disease profile from pandemics of infection to chronic non-communicable diseases.[34] This transition was seen as heralding in a new *era,* which would require new ways of knowing and administering the life and health of the global population (Jamison, Mosely, et al. 1993; Feachem et al. 1992; Jamison, Mosley, et al. 1993).

While the health transition held general implications for the orientation of the world health agenda – away from population control and towards diseases of old-age – the precise consequences of the transition for the global incidence of disease and for the exact interventions necessary to curb its spread were unknown . This knowledge-deficit presented a two-fold problem for the Bank. First, it hampered the Bank's efforts to define a set of "essential health services". Second, in the absence of systematic estimates of the global incidence of disease, statistics on disease prevalence were frequently provided by disease-specific advocates and health activists. These numbers were viewed with deep suspicion by World Bank experts (Murray and Lopez 1996a; Jamison, Mosely, et al. 1993; World Bank 1993). The Bank thus undertook a wide-reaching Health Sector Priorities Review that yielded a constellation of studies in descriptive epidemiology, epidemiological forecasting and health systems planning in the hopes of reducing the uncertainty caused by the anticipated epidemiological transition. The most significant of these studies - the Global Burden of Disease (GBD) Study and the Disease Control Priorities (DCP) Project - served as background papers

[34] Although the HIV/AIDs epidemic grew considerable throughout the 1980s and into the early 1990s, World Bank demographers, epidemiologists and health economists anticipated that the epidemic would wane after reaching a peak in the early 2000s. These projections proved to be overly optimistic (Murray and Lopez 1996, 347).

to the landmark *World Development Report 1993: Investing in Health* . Importantly for my purposes here, the *World Development Report 1993: Investing in Health* (WRD 1993) also introduced the Disability Adjusted Life Year metric.[35]

THE QUANTIFICATION OF HEALTH AND DISEASE

Although the World Bank's Health Sector Priorities Review began in the late 1980s (in response to the comprehensive vs selective primary health care debates that beset the field of world health during that decade – See Chapter 1), it received renewed attention under Lawrence Summers' tenure as chief economist of the World Bank beginning in 1991. Head of the Health Nutrition and Population Division of the Bank, US health economist Dean Jamison was then commissioned as lead author of the *Investing in Health Report* and subsequently recruited fellow US health economist Christopher Murray and Australia statistician Alan Lopez to undertake a study of the incidence of ill health world-wide. According to Alan Lopez, the overarching research question was proposed by Dean Jamison. Jamison contacted Christopher Murray and requested that he study not only what *kills* people, a research agenda that was already being undertaken by WHO (by Alan Lopez, in particular), but what *ails* them: "what is the non-fatal component of disease" (Lopez 2013). Jamison reasoned: "…people get sick from Malaria, infection or from a stroke, but they don't die. They're not in full health. Shouldn't we be measuring that?" (Lopez 2013). Jamison's thus sought to determine the global *burden* of disease, incorporating both mortality and morbidity, and

[35] The GBD study created the DALY metric while the DCPP project adopted cost effectiveness analysis (based on dollar expenditures for health gains measured in DALYS) as the criteria for prioritizing categorical health packages as essential health services.

what could be done to reduce that burden through cost-effective interventions. Lopez characterizes it as such: "Jamison wanted to do two big things. He wanted to measure the burden of disease, not just mortality, but the burden of fatal and not fatal events. And what you can do about them, the cost effectiveness" (Lopez 2013). The immediate purpose of the GBD study was to discern the "global burden of disease" while the DCP project was to recommend evidence-based packages of cost-effective "essential health services" as part of the World Bank's categorical approach to health sector financing in the developing world. Importantly, both studies used the newly created DALY metric to discern both disease burden and cost-effectiveness.

Murray and Lopez hoped to account for the "full loss of healthy life" due to disease, death and disability on a global scale, but also and to "disentangle evidence from advocacy" (Lopez 2005). Murray and Lopez characterized the problem of health advocacy in the following way:

> All too often, health statistics are provided to decision-makers, the scientific community and the public by advocates. These advocates, although well intentioned have specific agendas, and the information they provide is often filtered or biased… Public health policy formulation desperately needs independent objective information on the magnitude of health problems and their likely trends, based on standard units of measurement and comparable methods (Christopher J. L. Murray and Lopez 1996b, 740).

The GBD study and DCP project were intended to aid in more "objective" global health priority setting by eliminating the role of health activists in determining the world health agenda and facilitating, instead, the creation of an evidence-base consisting primarily of cost-benefit analyses. Previous attempts to gauge the relative importance of different diseases used mortality statistics, disease prevalence rates, or risk of death

calculations to determine the *number* of deaths due to various diseases (Feachem et al. 1992). The DALY metric, in contrast, sought to account also for the *chronicity* of diseases and conditions that may not be fatal, but by virtue of their duration and disabling effects contributed to economic losses in the form of diminished productivity and strain on health systems. The DALY metric thus used "life-years" as a smaller and more commensurable unit than calculations made in individual human lives.

DALY forerunners – the QALY and HDLLs

Although the DALY metric has become a popular tool for measuring of the global burden of disease and evaluating the cost-effectiveness of health interventions, it was neither the first, nor is it the only, metric designed for the purposes of economic evaluation of health interventions. Its primary innovation consisted in drawing together two distinct lines of thought in health economics. The first strand originated in the "denominator problem" of cost effectiveness analysis of medical interventions. From its inception in the 1960s, the field of health economics struggled to come up with an appropriate denominator for cost-benefit calculations without appearing to place a dollar figure on life itself. The Quality Adjusted Life Year (QALY) was the first solution to the denominator problem and was proposed within the context of the British National Health Service (NHS) (Fanshel and Bush 1970; Zeckhauser and Shepard 1976; Ashmore, Mulkay, and Pinch 1989). The QALY measures the output of medical treatments in the units of individual years of life gained. These life years are then weighted for "quality of life", as gauged by subjective patient ratings scales along a continuum from 0 (death) to 1 (full health). The QALY metric, then, helped health

administrators answer the question: how much health will a certain intervention or treatment yield? (Wahlberg and Rose 2015, 73).[36]

The second line of thinking on which the DALY metric drew originated in a problem of vital statistics in Ghana. Despite a threefold increase in health spending over the previous two decades, by the late 1980s, very little change could be seen in the country's vital statistics – in infant mortality, life expectancy, maternal mortality or the birth rate (Ghana Health Assessment Project Team 1981, 73). The Ghana Health Assessment Project Team proposed a measure of "healthy days of life lost" (HDLL), through illness, disability or death to more accurately measure the impact of certain diseases of the health of the country's population. World Bank economist Howard Barnum later refined the healthy days of life lost concept by adding an "age-productivity profile" and applying the standard economic convention of discounting to calculate "healthy days of life gained" (HDLG) from potential health interventions (1987). HDLGs could then be incorporated into cost benefit calculations for the purposes of health sector planning.

The DALY metric drew on both of these traditions of thinking of order to solve problems of the rational allocation of health resources at the population level. If the QALY metric helped answer questions about the health yields of particular health interventions, then the DALY metric helped health systems planners answer questions about which diseases (and corresponding health interventions) should be prioritized at the population level. The DALY was then incorporated into the GBD study and the

[36] Nikolas Rose and Ayo Wahlberg position both the QALY and DALY metric within a fascinating analysis of a longer history of endeavors to "governmentalize" living (Wahlberg and Rose 2015).

DCP project to ascertain the total incidence of health and disease worldwide as well as the potential to optimize the health of the global population through cost effective health interventions.

The DALY Metric

In its simplest presentation the DALY metric "expresses years of life lost to premature death and years lived with a disability of specified severity and duration" . That is:

$$\text{DALYs} = \text{YLL} + \text{YLD}$$

where YLL are the years of life lost to premature death and YLD are years of life lived with disability. One DALY is equivalent to one *year* of healthy life lost, either wholly to premature death, or fractionally to disease or to disability. DALYs are a "health gap measure" that measure "loss of health" from an imagined state of ideal health. They are thus a "global health bad", something to be added up and it was hoped, minimized through the implementation of cost effective health interventions. DALYs represent an internationally standardized quantum of life measured as a unit of *time* i.e. as life-years. Unlike older health statistics, which used either prevalence data or incidence rates to determine aggregate disease incidence, the DALY metric uses time, in either days or years, to render intelligible not just the incidence of death and disease but their relative burden, as well. Unlike vital statistics, which measure life as a coherent unity from birth through adolescence and adulthood until death, DALYs disaggregate life from death and measure the loss of life only in terms of the loss of its component units of time. Instead of *lifetimes,* DALYs measure *life*/time – life as time in the unit of individual

life-years. And unlike mortality statistics, which were difficult to incorporate into cost-benefit calculation without breaking the taboo of putting a dollar figure on life itself, DALYs, like QALYs before them, could be incorporated unproblematically as a denominator in cost-benefit calculations.

The DALY metric thus disaggregates the temporal coherence of lifetimes into commensurable units of life/time. But it incorporates a reworked temporality in another way too, by purporting to measure in terms of its present value the future impact of life/time units lost to death and disease. According to the initial presentation in the *Investing in Health report*, DALYs measure "the present value of the future stream of disability-free life lost as a result of death, disease, or injury" (World Bank 1993, 27). Life is here imagined in distinctly economic terms, as something the essence of which can be captured in terms of its present *value*, and located in the speculative future. The anticipatory move of determining the present value of future losses of life-years depends on two interrelated steps. First, one must determine the ideal against which death and disease can be measured as losses. As Murray and Lopez put it, "Disease burden is, in effect, the gap between a population's actual health status and some 'ideal', or reference status" (Murray and Lopez 1996c, 7). In determining this ideal state of health, Murray and Lopez adopted the broadly egalitarian principle that good health is a universal. Only sex and age are taken into account as variables in calculating disease burden; ideal life expectancy, for example, is assumed to be the same across the entire global population. Second, the present value of future losses of life-years must be quantified and calculated. This is accomplished through a number of technical calculation incorporated into the DALY metric; an age weighting function, a time–

based discounting function, a set of disability severity weights and the use of an internationally standardized life expectancy. I address each in turn, drawing attention to the political presupposition with which each of these technical dimensions is co-produced.

Age Weighting

Age weighting is performed according to a function that gives different value to years of life lost at different stages of the life course. It was incorporated by Murray and Lopez by "consensus judgment" in order to reflect the idea that "most societies attach more importance to a year of life lived by a young or middle-aged adult than to a year of life lived by a child or an elderly person" (World Bank 1993, 26, 213). However, as they go on to explain, even if life was held to have the same intrinsic value at every age, they might still "attach greater importance to years of productive adult life" because of the importance of adults as "net producers" i.e. for their increased human capital and resulting increased contribution to economic growth. The different age weights are defined by the exponential function ka^(-βa) where a is age, β is the constant value 0.04 and constant k is chosen so that the total number of DALYs output by the calculation is the same as though uniform age weights had been used (World Bank 1993, 213). As a result of this function, the relative value of life rises steeply from zero at birth to its peak at age 25 before falling gradually with advancing age (see figure 2.3). Its effect is to redistribute the burden of DALYs away from the early and later years and concentrate them on the middle, economically productive years of life, those years most critical to the Bank's priority of economic growth.

Discounting

In addition to age weighting, the DALY metric incorporates a discount rate of 3% to account for the temporal dimension of measuring the present value of future health states. Future years of healthy life are valued at progressively lower levels according to an exponential decay function. Discounting was incorporated to reflect a so-called "general societal preference" and fairly standard economic convention of prioritizing immediate over future gain by *discounting* the future at a steady rate. As Murray and Lopez explain "…societies typically prefer to have a given amount of consumption today rather than tomorrow" (World Bank 1993, 213). However, the inclusion of this purportedly typical social value also holds consequences for the distribution of the burden of disease. In combination with age weighting, discounting results in the relatively greater valuing of economically productive middle years of life. Because the future stream of life lost from childhood deaths is discounted over a longer period, the additional years count little as each additional year is discounted more heavily. The contribution of childhood deaths to the global burden of disease is thus given less significance relative to deaths that occur in middle age than in the absence of discounting: "…higher discount rates reduce the importance of premature deaths at young ages in relation to those at older ages" (World Bank 1993, 214).

The incorporation of age weighting and discounting functions into the DALY metric minimizes the contribution of childhood deaths to the global burden of disease and puts relatively greater value on the middle economically productive years of life – precisely those years deemed most important by the Bank for increasing economic

growth. Figure 2.3 illustrates the age weighting function and the combined impact of age weighting and discounting the resulting DALYs from death across the life course

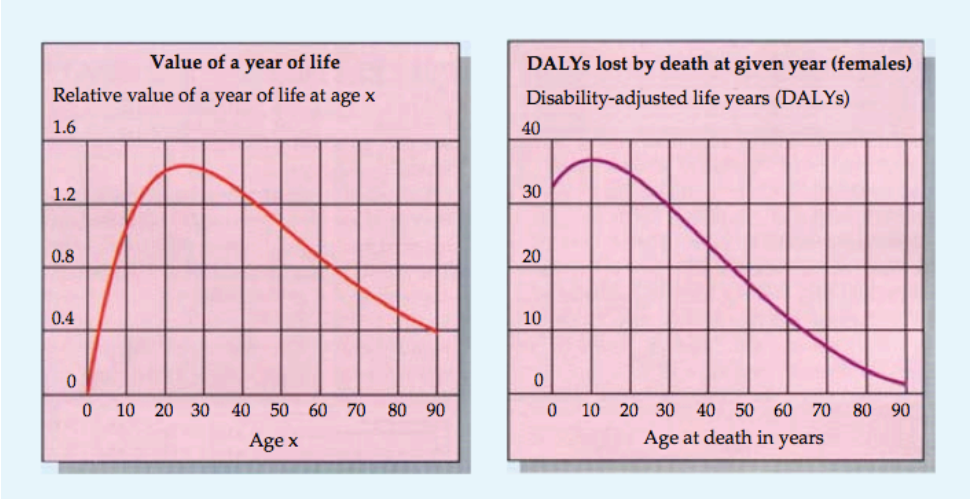

Figure 2.2: Effect of age weighting and discounting on DALYs lost by death at age X. Reproduced from (World Bank 1993, 26)

Disability Severity Weighting

The third technical dimension of the DALY metric is the set of disability severity weights that it employs. These were included to capture the contribution of morbidity to the global burden of disease, in addition to more traditional measures of mortality. Disability severity weights range from zero, reflecting perfect health, to one, reflecting totally disability equivalent to death. The fractional weighting of compromised health-states results in years of life lived with disability being valued less than years lived in perfect health. The disability weighting feature of the DALY metric has been subject to extensive critique – inspiring the so-called "DALY wars" - because it, quite literally, *dis-counts* the lives (or at least, life years) of the disabled. This critique has been framed in a number of different ways: as universalizing a particular (Western)

conceptualization of suffering, as decontextualizing health and illness from highly variable social conditions and as violating United Nations sanctioned disability rights (Bastian 2000; Arnesen and Nord 2000; Anand and Hanson 1997; Anand, Peter, and Sen 2004; Christopher J L Murray, Salomon, and Mathers 2002). What is most salient for the argument here is gleaned from the very definitions of the disability severity weights. In addition to the activities of daily living (e.g. dressing, eating, bathing, toileting), the dimensions of functional capacity deemed relevant are recreation, education, procreation and occupation (World Bank 1993; Christopher J. L. Murray and Lopez 1996c). The inclusion of education and occupation – and thus indirectly of productivity – couple these disability severity weights to potential contributions to economic growth (see figure 2.3). Life is discounted insofar as it is compromised in its economically productive potential.[37]

Table 2: **Definitions of disability weighting**

	Description	Weight
Class 1	Limited ability to perform at least one activity in one of the following areas: recreation, education, procreation or occupation.	0.096
Class 2	Limited ability to perform most activities in one of the following areas: recreation, education, procreation or occupation.	0.220
Class 3	Limited ability to perform activities in two or more of the following areas: recreation, education, procreation or occupation	0.400
Class 4	Limited ability to perform most activities in all of the following areas: recreation, education, procreation or occupation	0.600
Class 5	Needs assistance with instrumental activities of daily living such as meal preparation, shopping or housework.	0.810
Class 6	Needs assistance with activities of daily living such as eating, personal hygiene or toilet use.	0.920

Figure 2.3: Definitions of disability weighting Reproduced from (Murray and Lopez 1996a: 40)

[37] However, GBD co-author Alan Lopez was careful to point out to me that "if you are going to measure non-fatal outcomes…you're going to have to weight on a scale of 0 to 1 what disabilities people have. We're not saying disabled people are of less value, absolutely not. What we're saying is if you care about prevention - what it is that caused health loss in those people - then you should measure it. And that's what we did." (Lopez 2013).

Standard Life Expectancy

Finally, the DALY metric incorporates the use of a standard life table for calculating years of life lost at any given age. In measuring "premature death" one must define a natural limit to life or a point at which death is, no longer, premature. But instead of using actual life expectancies – as these vary considerably from place to place – the GBD study employed a standard life table for all populations with the life expectancies at birth of 82.5 for women and 80 years for men. As mentioned earlier, the impetus for using standard life expectancy was the egalitarian principle that death and disease that occur at any particular age should contribute equally to the global burden of disease regardless of where they occur. That is, the death of a woman at the age of, say 57, should contribute equally to the burden of disease whether than woman dies in San Diego or Soweto. But by universalizing a standard life expectancy, the DALY metric effectively decouples the calculation of the global burden of disease (measured in DALYs) from the actual health conditions experienced by populations in various corners of the globe. While the impetus for doing so is broadly egalitarian, its consequences (as I will describe shortly) may be decidedly less so. The main point for my discussion here, though, is that it moves life, and the limit to life experienced through death, out of the realm of actually existing material conditions and locates it instead in the speculative future of potential life/time.

When combined, these technical dimensions of the DALY metric yield the following formula:

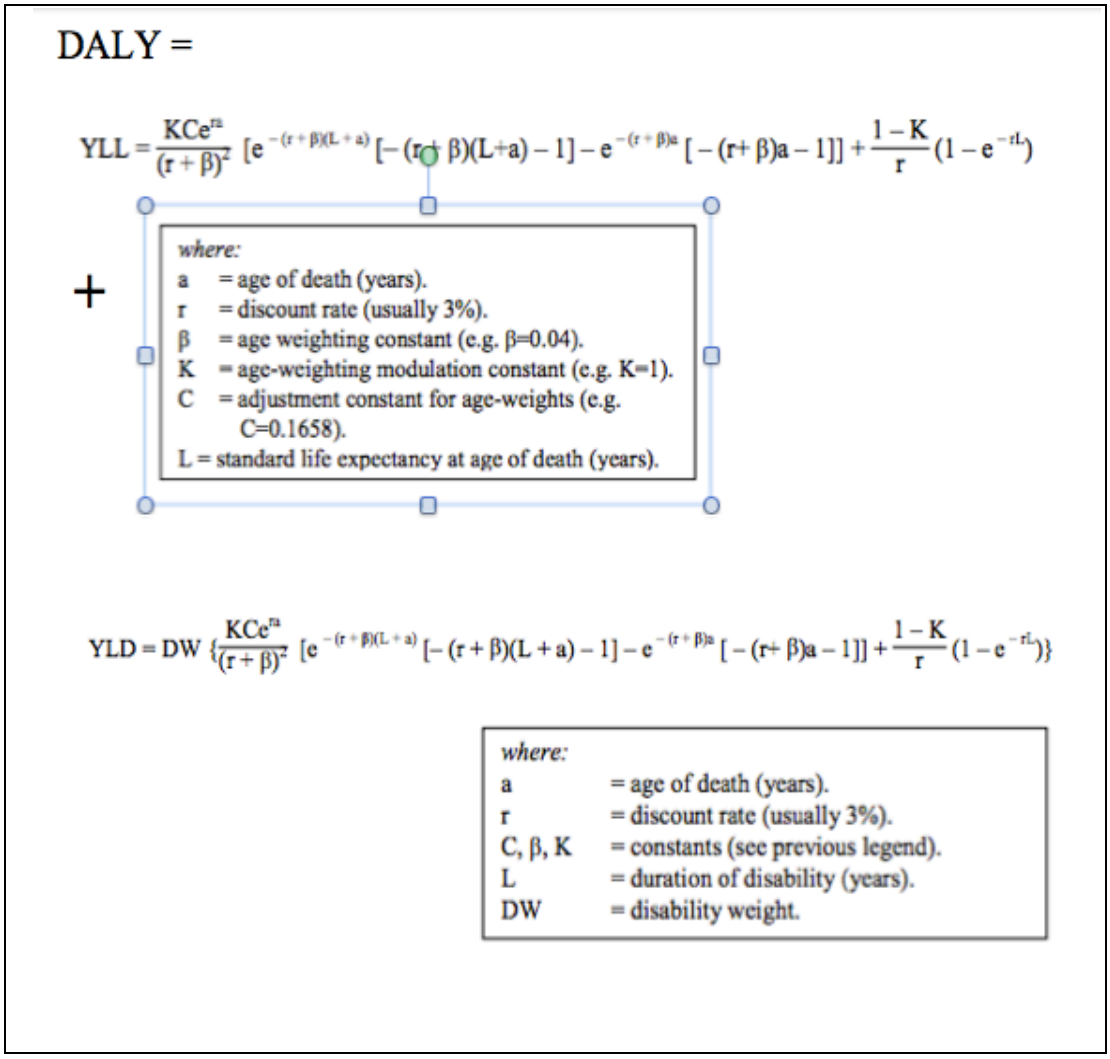

Figure 2.4: DALY Formula including technical dimensions. Adapted from (Prüss-üstün et al. 2003)

The various intricacies of these functions are less important than the fact that their incorporation into DALY calculations demonstrates the application of an explicitly economic lens to the quantification of the global burden of disease. Furthermore, the economization of life accomplished by the DALY metric - through its distinctly economic figuring of health, disease, death and life/time – is masked by the seeming

objectivity of numbers when the DALY metric is presented in its simplest form as the counting and addition of years of life lost to premature death, disease and disability.

THE ECONOMIZATION OF LIFE

Each of the technical dimensions of the DALY metrics is underpinned by a general conceptualization of health as a form of "human capital"– that same Nobel-prize winning concept most fully developed by the Chicago School's Theodore Schultz and Gary Becker (Becker 1962; Schultz 1961). Although human capital theory met with resistance and controversy upon its initial introduction and development in the 1950s and 1960s, by the 1990s, it had become a central tenet of both micro and macro economic theory and key to the rapid expansion of the field of economics through so-called economic imperialism (Becker 1997; Fourcade 2006; Fourcade-Gourinchas 2001; Mitchell 2006). Becker defined human capital as those "activities that influence future real income through the imbedding of resources in people" including the knowledge, skills, dispositions and health that are embodied in people that make them economically productive (1962, 9). Some of the ways to invest in one's human capital, Becker argued "include schooling, on-the-job training, medical care, vitamin consumption, and acquiring information about the economic system" (1962, 9). These investments vary in their relative effects on earnings, that is, in their relative return on investment. "But all improve the physical and mental abilities of people and thereby raise real income prospects" (Becker 1962, 9). The epistemic underpinnings of human capital theory, then, inevitably invoke a neoliberal political rationality in which an economic lens is applied across the entirety of human existence.

While Becker acknowledged the importance of health as a form of human capital, the concept was more fully theorized by Becker's student Michael Grossman (Grossman 2004; Grossman 1972). He conceptualized health as something consumers demand for two reasons. First, as a consumption commodity it "enters into their preference functions", that is, people prefer a state of health over a state of ill health. Second, and importantly for the argument being developed here, health is conceptualized as an investment commodity because it "determines the total amount of time available for market and nonmarket activities… [such that] an increase in the stock of health reduces the time lost from these activities" [i.e. time away from market and non-market activities](Grossman 1972, 225). Health as a site of investment yields life, here configured as a form of time. The return on investment in health as human capital is an increased dividend of time. The monetary value of increased life-as-time, or, conversely, the "monetary value of the reduction [of lost productive time]" Grossman continued, "is an index of the return to an investment in health" (Grossman 1972, 225). Investing in one's health extends the *duration* of possible participation in market and non-market activity and maximizes the term over which investment in one's human capital can be realized. Premature death represents the foreshortening of the term of investment, whereas health extends life.

With health as human capital, and lifetimes disaggregated into life/time, life itself is reassembled as a revenue stream. But perhaps more worryingly, premature death becomes not just a foreshortening of time, but a form of failed investment – or, more accurately, a failure to self-invest. Grossman explains:

> [I]t is assumed that individuals inherit an initial stock of health that depreciates over time – at an increasing rate, at least after some stage in the life cycle – and can be increased by investment. Death occurs when the stock falls below a certain level, and one of the novel features of the model is that individuals "choose" their length of life (Grossman 1972, 225).

With health imagined as a form of human capital, the length of one's life becomes the result of investing, or failing to invest, in one's own health (that investment commodity that yields units of life/time). Death is no longer a disease-outcome, it is rendered a decision-outcome – a decision outcome that the future-oriented, risk-minimizing economically maximizing rational actor should, obviously, avoid through self-optimizing practices of investing in one's own health. This rendering of health as human capital, the disaggregation of lifetimes into life/time and reassembly of life as a revenue stream presupposes a neoliberal *homo oeconomicus* who must optimize their own health in the present in order secure future life/time.

This conceptualization of the length of life as a consumer choice can be seen in the DALY metric's use of a standard life expectancy table. Despite the egalitarian principle behind the standard life expectancy, when the duration of life is conceptualized as resulting from individual investment choices, entire high-mortality populations are recast as failed investors; as having failed to invest adequately in their own stock of health capital. Of course, individuals *choose* their length of life to approximately the same degree that they choose where they are born. Any rational actor would chose to be born amidst a low mortality population; every *homo oeconomicus* should invest in their own health so as to ensure maximal life expectancy. But recasting life expectancy as an investment choice takes life expectancy out of the realm of

structural determinants of health and locates it firmly within the territory of individual agency, with the result that individuals born amidst high-mortality populations are immediately rendered failed investors. When cast in the light of human capital theory, the "egalitarian principle" involved in the DALY metric's use of a standard life table starts to look far less egalitarian.

The DALY metric was conceived in a broadly egalitarian spirit and designed for the purposes of carrying out cost-benefit analyses of potential health interventions so as to design emerging health systems according to a logical of economic optimization. But more than just facilitating cost-benefit analyses, the DALY metric accomplishes an *economization of life* itself by disaggregating lifetimes into component units of life-as-time and reassembling life as revenue stream to be maximized through practices of self-investment in one's own health – configured here as human capital. Death, on the other hand, results from a failure to self-invest appropriately. Death is not a disease outcome but rather a decision outcome: it results from the unsuccessful entrepreneurial management of the self; from inadequate future-oriented cost-benefit calculating, risk minimizing, economic optimizing rational action. Death, on the logic of the DALY metric, becomes the ultimate failure of neoliberal *homo oeconomicus.*

GBD STUDY AND DCP PROJECT FINDINGS

Using the DALY metric, the GBD study compiled, for the first time "a comprehensive, internally consistent and comparable set of estimates of current patterns of mortality and disability from disease and injury for all regions of the world, with projections to the year 2020" (Murray and Lopez 1996a, 1). Similarly, the DCP project

reported on "the significance to public health of individual diseases (or related clusters of diseases) and of what is now known about the cost and effectiveness of relevant interventions for their control [using] estimates of marginal cost per disability-adjusted life year (DALY)" (Jamison et al 1993, 3). Because of the higher valuing of economically productive middle years of life in DALY calculations, disease of middle age – notably NCDs – achieved greater prominence in the GBD results (Murray and Lopez 1996; World Bank 1993). The GBD reported that NCDs represented the single largest category of DALYs lost worldwide – greater than either communicable diseases or injuries (Murray and Lopez 1996). Furthermore, it predicted that by 2020 NCDs would account for more than 70% of deaths in developing regions (Murray and Lopez 1996). At the same time, the Disease Control Priorities Project (DCPP), also sponsored by the World Bank, made a strong case for the cost effectiveness of health interventions designed to mitigate NCD risks – notably those directed towards personal behavior change (Jamison, Mosely, et al. 1993).

Each study reported its findings in a slightly different way. The GBD study reported on global mortality (deaths), global morbidity (disability), global disease burden (DALYs), the contribution to the global burden of disease of ten "risk factors", and projections of the global burden of disease to the year 2020 (Murray and Lopez 1996). Causes of death and disease were categorized into three broadly defined groups: Group I, consisting of Communicable, maternal, perinatal and nutritional conditions; Group II, consisting of Noncommunicable Diseases; and Group III, Injuries. The GBD study found that the epidemiological transition was already well advanced "suggesting that public health policy, with its traditional emphasis on infections disease, has not

kept pace with events"(Murray and Lopez 1996c, 3). From 47.4% of the global burden of disease in 1990, noncommunicable disease were anticipated to grow to 68.7% of the global burden of disease by 2020 (See figure 2.5).

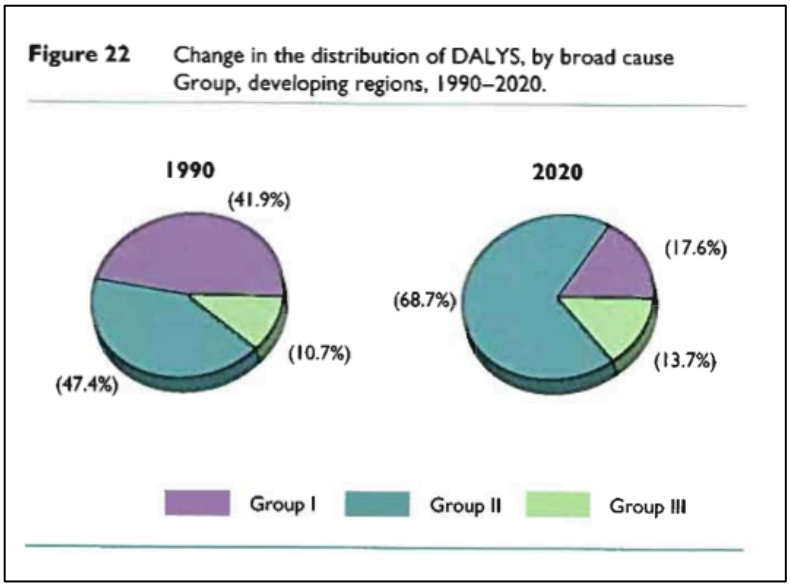

Figure 2.5: DALYs by cause group (Murray and Lopez 1996a, 37)

The DCP Project similarly reported:

> [N]ot only will the number of deaths rapidly increase in developing countries [due to population growth and aging], but there will also be a substantial (although incomplete) shift in the distribution of causes to the relatively expensive noncommunicable diseases of adults and the elderly. This shift, and the epidemiological diversity likely to result from a lingering heavy burden of communicable disease, will challenge health systems to mount a broader range of preventive interventions (Jamison et al 1993, 693).

The DCP project thus classified disease control priorities according to the "Unfinished Agenda" of infectious disease, reproductive health and malnutrition and "Emerging Problems" comprised of HIV and sexually transmitted diseases, noncommunicable disease (including mental health) and injuries. It urged countries to attend to emerging health problems while finishing the unfinished agenda. Crucially, both reports

highlighted tobacco-related disease as an area of particular concern and tobacco control as a particularly high priority.

Tobacco was highlighted as one of four "startling" observations in the GBD summary volume. "By 2020" it reported, "tobacco is expected to kill more people than any single disease, surpassing even the HIV epidemic" (Murray and Lopez 1996c, 3). Furthermore, whereas the prevalence of HIV was anticipated to increase through the mid-2000s, then stabilize, the tobacco epidemic was anticipated to continue growing at an alarming rate (see Figure 2.6). Murray and Lopez drew an important distinction between current and projected disease burden for the purposes of public health planning and prevention, emphasizing that current disease burden (especially for diseases due to past exposures) cannot be altered, the future disease burden may be prevented by judicious health interventions:

> An important distinction needs to be made between the *current* burden of diseases attributable to *past* expose to a risk factor and the *future* burden that may arise from *current* exposure to that risk. Much of the literature on the attributable risk, such as the estimates of smoking-attributable mortality by Peto et al (1994), is based on estimating current burden attributable to past exposure. Calculating future burden due to current exposure is inherently more complicated, given secular trends in diseases, expected socioeconomic changes and likely advances in technology. On the other hand, the future burden of disease and injury due to current exposure is more important for public health planning and prevention than current burden due to past exposures, since the latter cannot be altered (Murray and Lopez 1996, 297).

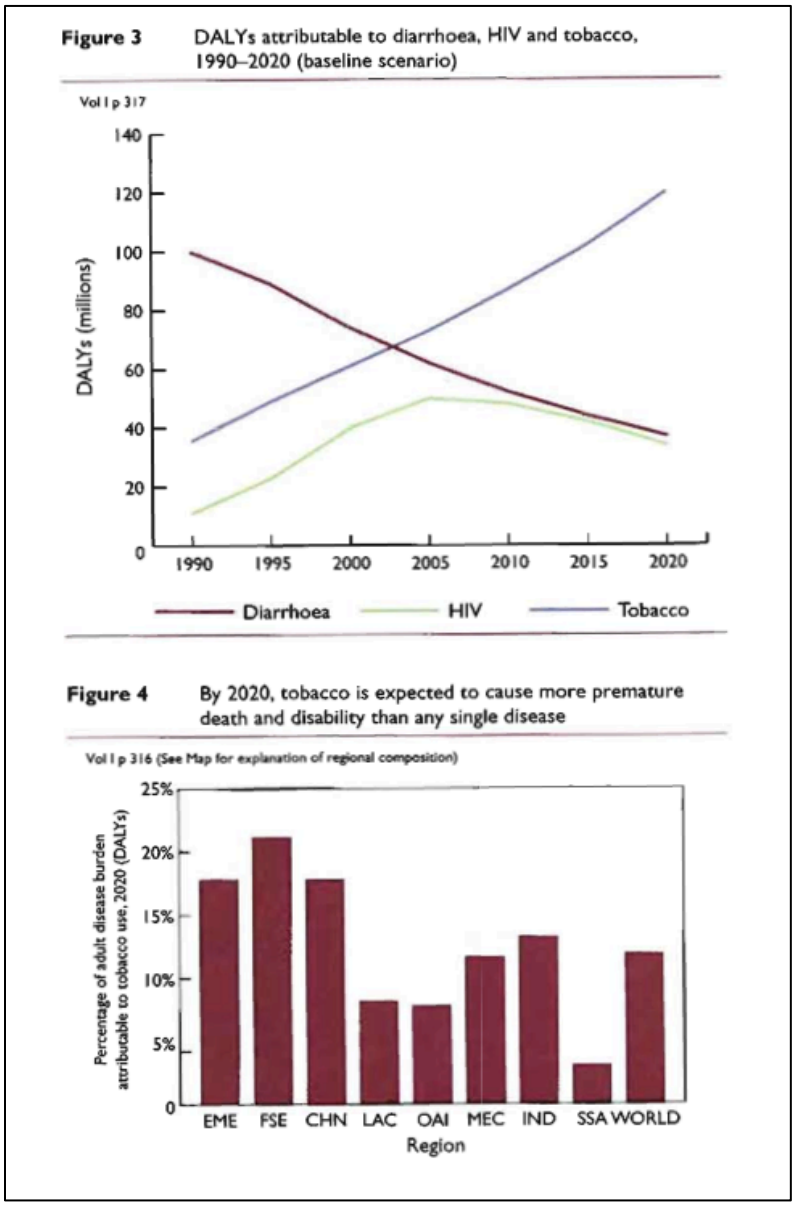

Figure 2.6: Tobacco in the GBD results
Reproduced from (Murray and Lopez 1996c, 5).

The DCP Project also emphasized the importance of anticipatory action on non-communicable disease and highlighted the case of tobacco as an exemplar:

> Smoking provides an excellent illustration of an emerging health problem….The relation between cigarette smoking and lung cancer illustrates a vitally important feature of chronic noncommunicable

> diseases – the long latent period between exposure and onset of the disease…These data highlight the importance of taking action to prevent chronic diseases decades before the epidemic appears. Regrettably, the rate of tobacco consumption in developing countries is increasing (Jameson et al 1993a, 6).

Tobacco then featured among the report's conclusions for national and international action:

> "Of particular importance here is the prompt national and international action to control tobacco use. Acquisition of tobacco addiction by today's youth generates the dynamic for lung cancer, COPD, and cardiovascular disease epidemics in fifteen to thirty years. Taxes, prohibition on job promotions, and other effective interventions are available, and their prompt implementation is high priority" (Jamison et al 1993a, 33).

The stark projections of tobacco related death and disease prompted immediate action at the World Bank in terms of its tobacco policies and its research into tobacco economics.

Immediately the Bank ceased lending for tobacco production (World Bank 1993, 89). It also commenced further research into the economics of tobacco. Early results of this research appeared in Appendix A to the completed DCPP volume. There, Kenneth Stanley of the Harvard School of Public Health provided statistical analyses the health effects of tobacco consumption as well as on its effects of the family, the workplace, and the environment. He also covered tobacco production and consumption, the tobacco manufacturing industry, advertising and promotion, and tobacco control strategies. Stanley observed "As the debate on the control of tobacco worldwide matures, it is turning more to economic analyses" (Jamison, Mosely, et al. 1993, 718). While economic analyses of tobacco were still in their nascent stage, Stanley nonetheless concluded:

> When all the economic costs and benefits of tobacco use are summarized and compared, the single element that emerges as determining the conclusion is the simple fact that male smokers are more than twice as likely to die during their working years (before age sixty-five) than nonsmokers. The energy and productivity of these people has been wasted… The control of tobacco is one of the most important public health issues facing mankind, if not the most important. Future generations will look back and wonder why it took so long for us to ban such an obvious hazard (Jamison, Mosely, et al. 1993, 721).

The DALY metric, the GBD, the DCP Project and the World Bank's *World Development Report 1993: Investing in Health* all flagged tobacco as a particularly serious impending health threat – helping to constitute the global tobacco epidemic as an object of epidemiological and economic knowledge. Over the next two chapters I show how that knowledge was mobilized in support of regulatory action to combat the epidemic.

CONCLUSION

The World Bank's *World Development Report 1993: Investing in Health* is frequently identified as a key moment in the transition from international to global health and the rise of neoliberalism in the field of world health. In this chapter, I located the epistemological roots of this historical shift in a different aspect of the *Investing in Health* report: its introduction of the DALY metric. While my focus has been on these epistemological roots, I do not mean to suggest that they are completely independent of the structural changes that have accompanied the rise of global health. Indeed, the interconnectedness of political rationalities, material forms, institutional arrangements and technologies of power can be seen in the extensive uptake of the DALY method within the contemporary global health regime. For example, Dr Gro Harlem Brundtland

adopted *Investing in Health* upon taking up her position as Director General of the World Health Organization (WHO) in 1998 as her "roadmap" to reforming the WHO amidst the changing terrain of world health. And Bill Gates – who was initially inspired to direct his philanthropic billions towards global health by *Investing in Health* – has subsequently directed considerable funding towards successive iterations of the Global Burden of Disease study in order to refine the DALY methodology and determine funding priorities for the Gates Foundation's global health initiatives.

The DALY metric, GBD study and DCP project all provided a set of flexible epistemic resources with which a range of actors have advocated for different global health initiatives. Advocates of global tobacco control, in particular, adopted the GBD numbers and evidence of cost-effectiveness of tobacco control interventions (calculated in DALYs gained for dollars spent) as in the efforts in support of the Framework Convention on Tobacco Control. Of course, the GBD findings did not initiate the tobacco control movement – national and international anti-tobacco efforts predate the GBD study by at least three decades. Nevertheless, the creation of the "evidence base" that I've described in this chapter turned out to be a pivotal point in the movement for international tobacco control. Before the GBD study, the movement for international tobacco control relied primarily of a moral outrage framing of its grievances and targeted the tobacco industry as its primary antagonist. This framing, however, found little resonance and gained little traction. The movement underwent considerable professionalization during the 1980s and 1990s, which contributed, in part, to the work of the GBD study and its focus on tobacco mortality. In turn, the anti-tobacco movement adopted epidemiological and economic forecasts as an important epistemic

resource with which to advocate for a legal regulatory approach to international tobacco control. I trace the history of the international tobacco control movement, and its eventual success in forging the FCTC treaty, over the following two chapters.

Parts of Chapter 2 of this dissertation appear in Kenny, Katherine. “The biopolitics of global health: Life and death in neoliberal time”. *Journal of Sociology*, vol. 51 (1), 2015. The dissertation author was the sole investigator and author of this paper.

CHAPTER 3:

THE EARLY MOVEMENT FOR INTERNATIONAL TOBACCO CONTROL: MORAL OUTRAGE AND SCIENTIFIC EVIDENCE

The size of the public health threat, the need for the widest possible support for decisive action and the urgency for serious action make the FCTC more then just another treaty: it is a global public health movement![38] *- Derek Yach,*

In the last chapter I traced the problematization of a *global tobacco epidemic* back to efforts by the World Bank to quantify the global burden of disease for the purposes of health systems planning according to a logic of economic rationalism in the face of an anticipated health transition. The Global Burden of Disease (GBD) study and the Disease Control Priority (DCP) Project both helped to throw the scale of current and *future* tobacco related illness into sharp relief (Jamison et al. 1993; Murray and Lopez 1996; World Bank 1993). However, the newly recognized burden of the tobacco epidemic was not the first warning of an impending tobacco threat. Nor did the World Bank's problematization of the global tobacco epidemic lead directly to the creation of global tobacco control interventions in any linear fashion. The World Bank's burden-of-disease characterization of tobacco and the World Health Organization's solution to that problem in the form of the Framework Convention on Tobacco Control *did* proceed chronologically: the DALY metric was first published in 1993, the DCP Project results in 1993, and the full results of the GBD study in 1996 (World Bank 1993; Jamison,

[38] Speech by the Executive Director, Noncommunicable Diseases and Mental Health Cluster, World Health Organization, Geneva, Switzerland, June 15 2000.

Mosely, et al. 1993; Murray and Lopez 1996d). The initial idea for a WHO Treaty was also conceived in 1993 and the World Health Assembly (WHA) adopted resolutions to pursue a legally binding international instrument of tobacco control in 1995 and 1996 (Taylor and Roemer 1996; Ruth Roemer, Taylor, and Lariviere 2005; Mackay 2003). And although these became complementary and mutually reinforcing developments, each was motivated by slightly different epistemological, organizational and political concerns.

In the previous chapter I traced the historical developments that led to the GBD study, the DCP project, the creation of the DALY metric and to World Bank support of global tobacco control efforts. These were all necessary conditions for the eventual passage of the FCTC but were not, in themselves, a sufficient cause. In this chapter, I begin to trace various other factors that contributed to the eventual passage of the treaty. I detail the slow growth of a public health movement for international tobacco control, the development of the idea for a legally-binding regulatory approach by Allyn Taylor (then a doctoral student in international law); and the uptake of her ideas by Professor of health law and public health activist Ruth Roemer. In the next chapter I outline the promotion of the treaty-idea by Roemer and other tobacco control activist; the appointment of Gro Harlem Brundtland as Director General of the WHO; and the continued involvement of the World Bank in issues of global tobacco control, especially in *economic* analyses of proposed tobacco regulation. Only after the confluence of these varied ideas, events and activities did the conditions for the successful passage of the FCTC treaty emerge. Put differently, in the previous chapter I focused on the creation of the FCTC treaty's scientific evidence base. In the next two chapters, I focus on the

FCTC as a political accomplishment. However, the analytic separation of these foci should not be taken to mean that I take these processes to be independent of one another. Far from it – I maintain that the science and policy of global tobacco control have been *coproduced*. In this chapter and the next, I try to highlight how the movement for international tobacco control helped motivate and develop the scientific evidence base, especially the GBD study, and how the GBD results, in turn, shaped the international tobacco control movement and contributed to the eventual passage of the FCTC treaty.

Importantly, this chapter does not recount the history of national-level tobacco control movements, the successes and failures of national tobacco control policy, nor the history of the tobacco industry's activities at the national or international level (except insofar as they pertain to the international tobacco control movement). Much careful scholarship has been devoted to these topics by historians, sociologists, and cultural theorists in national settings such as the United States, Canada, Australia, France, Japan, China, Brazil and India (A. Brandt 1990; A. Brandt 2007; Proctor 2012b; Proctor 2012a; Proctor 2001; Reid 2005a; Reid 2005b; Studlar 2002; Studlar 2004; Wolfson 2001; David and da Costa e Silva 2004; Reddy and Gupta 2008). Instead, I focus on the movement for *international* tobacco control as related, but distinct from, national-level mobilizations. I also emphasize the *conditions of possibility* for the emergence of the FCTC treaty rather than the negotiating process that immediately preceded the treaty's passage. Various scholars of law and political scientists have examined the treaty negotiations as a case study in global health governance, focusing especially on the role of civil society, health diplomacy and intersectoral collaboration

(Collin, Lee, and Bissell; Collin, Lee, and Bissell 2002; Gostin and Taylor 2008; Magnusson 2007; Mamudu and Glantz 2009; Collin 2012; Lee 2010; Novotny and Adams 2007; Adams, Novotny, and Hannah 2008). I focus, instead, on how the *idea* for the treaty become thinkable, actionable and, eventually, acceptable (Foucault 1970, 1972, 1984).

I show how the international tobacco control movement initially framed their grievances in terms of moral outrage and positioned the tobacco industry and as its relentless pursuit of profits at the expense of human lives as the movements primary antagonist. The industry's disregard for human health was seen as particularly egregious in light of the emerging epidemiological evidence on the extent of smoking-related disease and growing awareness of tobacco industry marketing practices in the global South. Of course, a similar moral-outrage frame animated much national-level anti-smoking activity during this same period. However, on its own, the moral outrage frame did not find resonance within the discursive context of the field of world health at the time. Throughout the 1980s and 1990s the international tobacco control movement underwent considerable professionalization, helped develop epidemiological and economic forecasts of the tobacco threat, and subsequently adopted these forecasts as an important epistemic resource in advocating for international tobacco control. The tobacco threat was reframed as a depersonalized impending epidemic with dire anticipated consequences for both human health and national economies. This reframing coincided with a change in the discursive context of the field of world health with the transition from "international" to "global health" during the 1990s. With neoliberal economic rationalities ascendant in the field of world health and with the

tobacco epidemic now framed in economic terms, the international tobacco control movement began to gain traction. With the appointment of Gro Harlem Brundtland as Director General of the WHO in 1998, the international tobacco control movement found a powerful ally and important transnational political opportunity and fast progress towards the was FCTC achieved. During the negotiating process, the WHO helped reignited the moral outrage frame in the wake of the publication of formerly secret tobacco industry documents released after the Master Settlement Agreement in the United States. This moral outrage frame helped unify and mobilize renewed efforts among the tobacco control movement, which at this stage and with help from the WHO became a *transnational* or global public health movement.

I begin by briefly reviewing the social movements literature outlining my approach to the international tobacco control movement. I draw on various concepts, especially framing and discursive opportunities to make sense of the origins and growth the movement for international tobacco control. I begin by sketching the pre-history of international tobacco control, including increased concern with tobacco related illness as early as 1967 following on from the publicity about the harms of smoking in the United States after the 1964 Surgeon General's Report. These early tobacco control investigations were inspired by recent epidemiological studies into the harms of smoking. But they were also driven by a sense of moral outrage and anti-corporate critique that aligned with the social justice orientation of the broader New International Economic Order movement of the time (Chorev 2012). Mike Muller's *Tobacco and the Third World: Tomorrow's Epidemic* (1978) and the activities of Australian activist

group BUGA-UP illustrate the moral outrage framing of the early international tobacco control movement.

However, throughout the 1980s and into the early 1990s, the attention of the international health community shifted almost exclusively towards infant mortality and child survival. This reflected the scaling back of the Alma-Ata primary health care agenda and its re-articulation through the lens of *selective* primary health care. The focus of selective primary health care was on specific interventions (Growth monitoring, Oral Rehydration, Breastfeeding and Immunization (GOBI), later expanded to also include Female Education, Family Spacing and Food Supplements, i.e. GOBI-FFF) that were discrete, easy to implement and whose outcomes were *measurable* (Mosley and Chen 1984. See also Wahlberg 2007). The debate between horizontally-oriented comprehensive primary health care and more vertically-oriented selective primary health care that raged throughout the 1980s and early 1990s added to the tensions and schisms that characterized the field of world health at this time and contributed to the declining prominence of the WHO (Cueto 2004; Walsh and Warren 1979; Gish 1982; Bryant, Richmond, and Project 2009; W H Mosley 1988; Godlee 1994; Brown, Cueto, and Fee 2006). Within this landscape, tobacco was not a priority at the WHO. Progress towards to the eventual FCTC would have to wait until the confluence of an additional set of conditions: the appointment of Gro Harlem Brundtland as Director General of the WHO, a program of WHO reform initiated throughout the 1990s that emphasized the role of health law in the WHO's adaptation to the changing discursive structure of world health, and the closer alignment of the WHO with the World Bank's economic approach to world health that Brundtland helped

achieved. I address these additional conditions of possibility for the FCTC treaty in the following chapter.

SOCIAL MOVEMENTS, FRAMING AND OPPORTUNITY STRUCTURES

Social movements have long been of interest to sociologists for at least two reasons - for their role in bringing about social change and because of their tendency to serve as a bellwether for the functioning of the extant political structures in society (Nick Crossley 2002). Prior to the 1960s, studies of social movements were carried out under the loosely grouped "collective behavior" approach, in which episodes of mass protest, much like panics, crazes and fads, were assumed to be spontaneous, disorganized and ultimately irrational (Blumer 1951; Blumer 1971; R. Turner and Killian 1987; Smelser 1962). However, with the emergence of the so-called "new" social movements - civil rights, the antiwar movement, the women's and gay rights movements, and the environmental movement - the assumed irrationality of social protest became untenable. These movements were well organized, strategic and largely durable and as the decades progressed newly minted scholars that were sympathetic to (and often involved in) their causes began to extend more favorable treatment to the sociological analysis of collective action (McAdam 1982; Jenkins 1983; Morris 1984; Rupp and Taylor 1987; Gamson 1989; Laraña, Johnston, and Gusfield 1994).

Subsequently, North American social movement theory came to be dominated by a new paradigm that emphasized the organizational and rational aspects of collective

action.[39] Whereas the collective behavior approach assumed that social protest was a reflex-like reaction to social strain, this new paradigm held that strain, grievances and discontent are omnipresent in society. Instead, changes in the *political opportunities* available to express such discontent were seen as the catalyst for the formation of social movements (Mccarthy and Zald 1977; Tilly 1978). What became known as resource mobilization (RM) theory (Mccarthy and Zald 1977; Jenkins 1983) and political process (PP) theory (McAdam 1982; Kitschelt 1986) directed attention to the availability of resources, opportunities and constraints and how these were mobilized by rational organizers. Implicit in this paradigm was a conception of power as operating almost always through, or in relation to, the structures of the formal state. Social movements were thus defined as deinstitutionalized challenges to institutionalized power (Tarrow 1998) - politics by other means.

While early RM/PP approaches were criticized for their narrow conceptualization of power, newer, multi-institutional approaches have gained some currency within social movements theory over the past decades. Building on the work of Pierre Bourdieu (1977) and Michel Foucault (1978, 1980), some scholars have adopted the terminology of "fields of protest", "fields of contention", (Ray 1999; E A Armstrong 2002; Nick Crossley 2002; N Crossley 2006) or "multi-institutional politics" (Armstrong and Bernstein 2008) to differentiate their new theoretical approaches from

[39] The main European counterpart to the North American paradigm came to be known as New Social Movements (NSM) theory. While NSM theory was developed to address some of the shortcomings of the American approach, especially its sometimes narrow conceptualization of power, it has drawn criticisms of its own. For example, it is often seen as overstating the uniqueness of identity-oriented movements and as totalizing in its tendency to view NSMs as indicative of a shift to post-industrial society. See (Buechler 2000; Pichardo 1997; Polletta and Jasper 2001).

earlier paradigms. Similarly, political process theorists have expanded the notion of opportunity structures beyond the formal structures of the state to incorporate economic, corporate, industry, intellectual and cultural opportunities and constraints as well (Waidzunas 2013; Frickel and Gross 2005; Wahlstrom and Peterson 2006; McDonnell, King, and Soule 2014; Ferree et al. 2002). Despite the terminological differences, these various perspectives collectively reject the view of politics as pertaining only to the structures of formal governance of nation-states and the accompanying view that power functions in society through these channels alone. Instead, they hold that domination is organized around multiple sources of power, each of which is simultaneously material and symbolic.

Social movements theory has since been characterized by fragmentation and hybridization of these approaches, in part to better account for the role of culture in explaining movement mobilization and success. Drawing on the work of Erving Goffman (1974) "framing" processes have become a popular way to include culture and the perception of shared purpose, especially by theorists who have "softened" their approaches and attempted to account better for the "ideational factors and interpretive processes" involved in the operation of social movements (Snow et al. 1986; Snow 1992; Benford and Snow 2000; Hunt and Benford 2004; Benford and Hunt 1992). Similarly, Benford and Hunt draw on the dramaturgical metaphor to detail the construction and communication of power in social movements. Through such processes as scripting, staging, performance and interpretation, movement actors define the social situation in need of redress, identify actors including protagonists and antagonists, frame grievances and align interests, manage the symbolic dimensions of

movement performances (1992).

I draw on various strands of this social movements literature in order to attend to the multiple institutional bases of power involved in the field of world health as well as the discursive context in which the international tobacco control movement has operated (Armstrong and Bernstein 2008; Ferree et al. 2002). I also draw on certain strands of political process theory. Scholars differ in their characterization of political opportunities: some use the concept quite broadly to refer to "all the institutional and cultural access points that actors can seize upon to attempt to bring their claims into the political forum" (Ferree et al. 2002, 61). Within this broad characterization of political opportunities, Ferree and her colleagues use the idea of *discursive opportunity structures* to highlight the more cultural access points – those having to do with ideas, knowledge and meaning-making processes. Others take a narrower view. Synthesizing the work of a range of scholars, McAdam characterizes four highly consensual dimensions of political opportunities:

1. The relative openness or closure of the institutionalized political system
2. The stability or instability of that broad set of elite alignments that typically undergird a polity
3. The presence or absence of elite allies
4. The states capacity and propensity for repression (McAdam 1996 ,26).

However, as Tamara Kay points out, while these four dimensions may facilitate analysis of the enabling or constraining environment of national social movements, they don't simply scale up to the transnational arena. Kay argues that the first and last dimensions of McAdams' characterization do not apply at the transnational level because "global governance institutions have neither democratic electoral accountability nor repressive

capacity" (2005, 722). Instead, Kay offers three primary dimensions of *transnational political opportunity structures:* "(1) the constitution of transnational actors and interests (2) the definition and recognition of transnational rights, and (3) adjudication of rights at the transnational level" (2005, 722).

Following Ferree and colleagues, I use the term *discursive opportunity structure* to describe the background context against which framing, scripting and movement performances occur and without which it can be hard to understand why some find resonance and others fall flat.[40] In my case, the transition from international to global health that I discussed in Chapter 1 constitutes the discursive opportunity structure against which the *economic* framing of the tobacco problem, especially, found resonance. I draw on aspects of McAdam's and Kay's characterizations of political opportunity structures by attending to the constitution of an international tobacco control movement, the presence, absence and alignment of elite allies within the field of world health (especially the alignment of WHO tobacco control efforts with the World Bank), and the formal recognition and adjudication of rights through the creation and passage of a legally binding FCTC treaty.

EARLY INTERNATIONAL TOBACCO CONTROL EFFORTS

Anti-tobacco sentiments can be found throughout history for almost as long as tobacco products have been in existence. For example, in a widely quoted treatise from

[40] In their book on the different abortion discourses found in the United States and Germany, Ferree and colleagues point to the shift from the Weimar Republic to the Nazi Regime as one example of a changed discursive opportunity structure that profoundly influenced the unfolding of abortion debates in Germany. See (Ferree et al. 2002, 61)

1604, King James I of England wrote of smoking: "A custome lothsome to the eye, hatefull to the Nose, harmefull to the braine, dangerous to the Lungs, and in the blacke stinking fume thereof, neerest resembling the horrible Stigian smoke of the pit that is bottomelesse" (James I 1604, D3). Tobacco has been found, at various times and by various people, to be undesirable for a number of reasons: aesthetically, religiously, morally, olfactorily, etc. It was primarily on these grounds that tobacco was critiqued until the mid-20th century.[41]

Concerns about tobacco consumption based on scientific or medical grounds began to coalesce in the 1950s and 1960s in the United Kingdom and the United States of America as the result of a number of now-famous epidemiological studies. In the United Kingdom, the publication of the British Doctor Study by Richard Doll and A. Bradford Hill in 1954 and the publication of the British Royal College of Physican's report in 1962 helped to solidify both the scientific status of field of epidemiology and the causal relationship between smoking and deleterious health effects such as lung cancer and cardiovascular disease (Doll and Hill 1954). But it was the release of US Surgeon General Luther Terry's *Smoking and Health: Report of the Advisory Committee to the Surgeon General of the Public Health Service*, complete with a nationally televised press conference, that marked what is now seen as a watershed in the history of tobacco control ("Smoking and Health: Report of the Advisory

[41] However, historian Robert Proctor has detailed how the Third Reich developed both extensive tobacco epidemiology and anti-smoking campaigns in Nazi Germany during the 1930s and 1940s. Although this is a fascinating episode in the history of global tobacco control, because it was so little know and had little impact beyond Germany until Proctor's historical scholarship, it is not central to the analysis provided here (Proctor 2012b).

Committee to the Surgeon General of the Public Health Service" 1964). The *New York Times* began an editorial covering the event with the statement "Now it's official", while its front-page story reported that there remained "no doubt about the role of cigarette smoking in causing cancer of the lungs" (Gusfield 1993, 57).

Although the *Surgeon General's Report* achieved unprecedented symbolic significance, its findings were neither novel nor unexpected. The report was comprised entirely of previously published scientific findings. It reviewed 7,000 publications but contained no *new* information concerning the relationship between smoking and cancer (Brandt 1990, 165). Nevertheless, the report's regulatory consequences soon became clear. Within a fortnight, the Federal Trade Commission (FTC) had proposed that every cigarette pack, carton or advertisement include a warning stating that smoking endangers health ("The Word On Cigarettes" 1964). The following year the proposal came to be realized in the Federal Cigarette Labeling and Advertising Act of 1965. The warning "Caution: Cigarette Smoking May Be Hazardous to Your Health" was required to appear in small print on one of the side panels of each cigarette package ("Warning Labels" 2000).

The wording of the warning label was considerably more tentative, and thus considered much weaker than the *causal* claim elaborated in the *Surgeon General's Report* – that smoking *causes* lung cancer. Allan Brandt attributes the disparity to two important influences: a powerful tobacco lobby on Capitol Hill and "the relative lack of experience most legislators had had with scientific findings"(Brandt 1990, 165). The tobacco lobby was able to critique the "soft science" of epidemiology on which the

report relied, while legislators were insufficiently used to dealing with scientific uncertainty as to be dissuaded from insisting on a stronger causal claim.

Anti-smoking activists quickly found another means through which to inform the public about the hazards of smoking. In 1967, a young consumer lawyer, John F. Banzhaf III, attempted to persuade the Federal Communications Commission (FCC) to apply the now-defunct "fairness doctrine" to cigarette advertising. He formed the (subsequently highly influential) anti-smoking group ASH – Action on Smoking and Health – which successfully petitioned the FCC to require national network broadcasters who aired cigarette commercials to devote equal airtime to anti-smoking counter-advertisements and public service announcements (Brandt 1990; Kagan and Nelson 2001; Rabin and Sugarman 2001; P. Jacobson, Wasserman, and Anderson 1997; P. D. Jacobson and Warner 1999). As a result, upwards of 1300 anti-smoking messages were broadcast in 1968, and anti-smoking advertisements received approximately $40 million of free airtime. The following year Congress passed the Public Health Cigarette Smoking Act of 1969, which, although it introduced stronger cigarette pack warning labels, spelled the end of national anti-smoking counter-advertising. The act prohibited cigarette advertising on television and radio, eliminating the need for networks to air anti-smoking counter-advertising messages.[42] However it did require that the cigarette packs carry the following, slightly enhanced warning label: "Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health" ("Warning Labels" 2000; Kagan and Nelson 2001).

[42] Allan Brandt argues that anti-smoking counter advertising was so effective in dissuading people from smoking that the tobacco industry preferred to acquiesce to a ban on their own advertising than to endure continued counter-advertising (Brandt 2007, 80).

The Emergence of a Moral Outrage Frame

The 1964 Surgeon General's Report sparked developments on the international scene as well. In September 1967, the report's author, Dr. Luther Terry, opened the inaugural World Conference on Smoking at Health in New York City. "We have come to the end of one era in the smoking and health field", he proclaimed. "The period of uncertainty is over… We know for certain that lung cancer, which is climbing to almost epidemic proportions throughout the world, is directly associated with cigarette smoking… And we know that a considerable amount of chronic disability is resulting annually from cigarette smoking." "Today", he continued "armed with the facts that come from careful scientific inquiry, we are on the threshold of a new era, a time of action, a time for public and private agencies, community groups and individual citizens to work together to bring this hydra-headed monster under control" (Terry 1967, 1). To over 500 delegates who had traveled to New York from 35 different countries he announced: "The Time of questioning is over. The time for action is now. Let this conference be the starting point for a concerted *worldwide* attack on this menace which is taking far too great a toll of the world's valuable human resources" (Terry 1967, 3-4 emphasis added).[43]

Dr. Terry's comments painted the smoking problem as a "menace" and as a "hydra headed monster" but stopped short of characterizing the tobacco industry as, *itself*, the problem. Instead, the many heads of this monster took the form of different

[43] Although 35 countries were represented by the delegates, the vast majority came from North America and Western Europe, notably from the United States, England, Canada and Norway.

types of diseases caused by smoking. In this, Dr. Terry's comment were similar in tone to the paper sessions of the First World Conference on Smoking & Health, which were devoted largely to reviews of the emerging scientific evidence regarding the negative health effects of smoking in areas ranging from cardiovascular disease, cancer and respiratory disease, to questions of addiction, of the role of the physician in their patient's attempts to quit smoking and to potential regulatory action.

But if most of the paper sessions, and indeed, Dr. Terry's opening comments, were focused on the *scientific* dimensions of the tobacco problem, the more overtly *politica*l dimensions were more directly invoked by Senator Robert F Kennedy of New York in his opening address to the conference. He said:

> I need not rehearse the terrible facts about smoking… nor the urgency of action in any detail… [Instead] let me make my position about them clear: Every year cigarettes kill more Americans than were killed in World War I, the Korean War, and Vietnam combined; nearly as many as died in battle in World War II. Each year cigarettes kill five times more Americans than do traffic accidents. Lung cancer alone kills as many as die on the road. *The cigarette industry is peddling a deadly weapon. It is dealing in people's lives for financial gain*" (Terry 1967, 6 -7 emphasis added).

Kennedy's critique of the tobacco industry for "pedaling a deadly weapon" and for prioritizing its own profits over people's lives illustrates a framing of the tobacco problem that has subsequently animated much of the tobacco control movement at both the national and international level: moral outrage.

Ranging from mild to more intense in its tone, this moral outrange frame has become a frequently used rhetorical strategy in advocating for tobacco control action ever since. However, although presented at what was billed as a "World Conference",

and to an audience comprised of attendees from a range of different countries, Kennedy's political remarks about the tobacco industry and the implied need for industry regulation were focused exclusively on the United States. This is illustrative of how the inaugural World Conference on Smoking and Health focused on the *international science* of smoking and health but only the *national politics* of tobacco regulation. While the science was seen to be universal, the politics of tobacco control and regulatory approaches to the tobacco problem were framed at the national level.

National policy responses to the tobacco problem began to be enacted throughout the late 1960s and 1970s in countries such as Australia, Canada, Finland, Norway and Singapore (Yach and Wipfli 2006). The development of tobacco control strategies in the global north, however, was anticipated to have negative consequences for the global south: the neocolonial expansion of the tobacco market. Reflecting on the proceedings of the Second World Conference on Smoking and Health that was held in London in 1971, an editorial in the British Medical Journal put it the following way:

> While the beginnings of effective control of smoking are being seen in some Western countries, many others have virtually no programmes for the prevention of the cigarette-induced diseases. There is a real danger of this deadly habit being exported to the younger countries of Africa and Asia, and the Western world has a responsibility to see that this is not done. We have already produced millions of slaves to cigarettes in our own lands. To export this slavery to the developing countries would be very wrong ("World Action on Smoking" 1971; Richardson 1971).

The concerns flagged in this post-conference editorial soon made their way onto the conference agenda, itself.

By the Fourth World Conference, held in Stockholm, Sweden in 1979 (and attended by 550 delegates from 67 countries) Dr Halfden Mahler, Director General of

the WHO, used the occasion of his keynote address to draw attention to the predicted grave consequences of tobacco consumption in the developing world:

> Unless we act very quickly, this sinister trend [of increasing smoking-related illness] will soon become generalized not only in the developed countries, but in the developing countries too. For the sad fact is that in those countries where people have the least to eat, where poverty is greatest, where the illiteracy is most widespread, in those countries more and more people are beginning to smoke each year, adding quite gratuitously to their already intolerable burden of ill-health and to their enormous problems of social and economic development (Ramström 1980, 10).

Mahler continued his address by highlighting the social justice dimensions of the tobacco problem:

> It is tragic that most of the time, the people in these countries do not have a chance to know the harm they are doing to themselves. Cigarettes are advertised in their news media as if they were a "liberation movement". Their cigarette packets carry no health warnings; and if they did, many of the smokers could not read them or would never see them because they are sold these cigarettes by ones and by twos – since the poor cannot afford to buy them by the packet. They do not know that very often they are being sold cigarettes with a far greater tar and nicotine content than the same brand in Europe or North America (Ramström 1980, 10).

The injustices perpetrated by an unregulated (and unscrupulous) tobacco industry, that was selling more harmful cigarettes in the global south than in the global north, and the exacerbation of existing health, social and economic inequality between the developed and developing world were central to Mahler's remarks.

Moral outrage, infant formula and cigarettes

Many of Mahler's observations about tobacco in the Third World had been publicized the year earlier in Mike Muller's exposé *Tobacco and the Third World:*

Tomorrow's Epidemic (Muller 1978). Muller had been commissioned by the British non-profit War on Want (who had received funding from the UK branch of anti-smoking group ASH) after having written the highly successful "Baby Killer" four years previously(Muller 1974). In "Baby Killer" Muller critiqued the misleading marketing practices used by Nestlé and other infant formula manufacturers when promoting their products in the developing world.[44] The *Baby Killer* sparked an international boycott of the transnational food corporation and prompted action at the WHO, which eventually adopted an international code specifying acceptable and unacceptable marketing practices for infant food supplements (or replacements). The WHO's International Code of Marketing of Breast-Milk Substitutes was formally adopted by the WHA in 1981 (*International Code of Marketing of Breast-Milk Substitutes* 1981; Shubber 1998). Although it was a voluntary (i.e. non-binding) code of conduct, it did provide a kind of precedent for the FCTC that would eventually follow. As the author of the two exposés, Mike Muller, told me, "I like to think that the baby milk issue, clearly emotive and difficult to oppose, helped open the door for global regulatory action on the much tougher areas of pharmaceuticals (WHO on essential drugs lists) and tobacco control" (personal communication, March 2014). Although the "Baby Killer" resulted in considerable public outcry, the tobacco exposé received less attention, and it would be the best part of three decades before the WHO would attempt international regulation devoted to tobacco control.

[44] While I opt for the more neutral terms "global South" or low and middle-income countries in my own prose, I use "developing" or "Third world" countries here to retain fidelity to the actors' own use of terms.

Muller's "Baby Killer" exposé resonated within the broader world health context of the late 1970s and early 1980s. As I showed in Chapter 1, during this time, tensions were emerging between the comprehensive primary health care approach enshrined in the WHO's Alma Ata declaration of "health for all by the year 2000" and the selective primary health care approach that envisioned health for all as best achieved through specific interventions directed largely towards improving the *measurable* outcome of child survival rates (Walsh and Warren 1979; Mosley and Chen 1984). Because the use of infant formula in the global South was shown to increase rates of diarrhea, malnutrition and infant death, there was considerable resonance between the infant formula issue and the discursive context of world health at that particular historical moment. The infant formula issue – and it attendant emphasis on the benefit of breastfeeding – also resonated with the World Bank's promotion of breastfeeding (as natural birth control and child spacing) as a form of population control. World population control was a theme that was particularly near and dear to the heart of the President of the World Bank from 1968 – 1981: Robert Strange McNamara (McNamara 1970). Of course, the infant formula issue was also extremely evocative (and, in Muller's words, emotive) – babies were dying in the global South because of unscrupulous marketing practices of a Northern transnational corporation. Consumer outrage manifested in the boycott, which originated in the United States before spreading to Australia, New Zealand, the United Kingdom and across Europe (Field Notes 13th WCTOH, 3/12/2009). Although the US boycott ended in 1984, its UK counterpart has continued, intermittently, to this day (see www.babymilkaction.org).

What is important for my purposes here is to point out that, like the infant formula issue, early international tobacco control grievances were framed by a sense of moral outrage and directed towards the tobacco industry which was portrayed as ruthlessly pursuing profits at the expense of human health. "The facts of tobacco today", Muller wrote in *Tomorrow's Epidemic*, "are that the countries where consumption is growing fastest are the world's poorest and hungriest" (Muller 1978, 13). "The trouble with multinational companies," he continued, "is that they are too good at doing the wrong things. And nowhere is this more clear than in the Third World tobacco business…The spread of cigarettes to the Third World is part of a wider problem – some call it 'Coca-Cola Colonialism'… tobacco just helps the rich get richer while the poor stay poor" (Muller 1978, 9,87,102). The moral outrage frame, when paired with the child survival themes of the infant formula issue found resonance and led, eventually to the WHO Breast-milk Code. However, a similar moral outrage frame, paired with the anti-capitalist neo-colonial critique of the *tobacco* problem, did not result in the same kind of policy outcome.[45] It did, however, extend the smoking and health debate beyond the strictly medical field into the realm of development. This extension was eventually incorporated by the international tobacco control movement,

[45] Of course, the moral outrage framing of the tobacco problem was tempered by a widespread counter-frame that emphasized the personal choice and individual assumption of the risk involved in the decision to smoke. As Allan Brandt and others have shown, this individual choice counter-frame was particularly strong in places, like the United States, where the political culture tends more towards the libertarian than the communitarian (Brandt & Rozin 1997; Brandt, 1990. See also Gusfield 1993).

for example when Muller was invited to present his findings to the 5th World Conference on Smoking and Health in Winnipeg, Canada in 1983.[46]

Anti-tobacco Activism

Even though the moral outrage framing of a global tobacco epidemic didn't find traction in the same way that the infant formula issue did, Muller's expose was nonetheless inspiring to a host of tobacco control activists. Australian tobacco control leader and future editor of the international journal *Tobacco Control*, Professor Simon Chapman, dedicated one of his early textbooks on tobacco control to Muller in acknowledgement of his pioneering work in the area (Chapman and Wong 1990). Chapman wrote: "There are only a few people whom you come across during your life who you later know with absolute clarity had a major influence on your thinking. I heard Mike [Muller] talk about the tobacco industry in Africa at the Winnipeg Conference in 1983 and his perspectives has shaped mine ever since" (Chapman and Wong 1990, iv).[47] *Tomorrow's Epidemic* was also cited in key reports, conference proceedings, scientific publications and other documents of the early tobacco control movement (Roemer 1982; Ramström 1980; Chapman et al. 1994).

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[46] Muller recounted his experience of tobacco industry surveillance at that meeting: "I recall having to throw a tobacco industry representative out of a meeting of the Africa group caucus; what that demonstrated was just how active and professional the industry was in monitoring and responding to the emerging campaigns" (Personal Communications, March 2014). Below I discuss the resurgence of the tobacco industry as a unifying antagonist in later efforts of the international tobacco control movement.

[47] Funded by the American Cancer Society and Produced in associating with the International Organization of Consumers Unions, Champan's text, "Tobacco Control in the Third World: A Resource Atlas" was prepared for the Seventh World Conference on Tobacco and Health, held in Perth, Australia in April 1990 to promote one of the conference themes: smoking in the developing world (Chapman and Wong 1990).

The early tobacco control movement, then, was animated by a moral outrage frame, driven by a social justice mission and often carried out by anti-tobacco "crusaders". In an oral history interview with Senior Advisor to the World Lung Foundation, Senior Consultant to the WHO and seasoned anti-tobacco campaigner Judith Mackay, she characterized the scene of early international tobacco control during the 1970s and through the 1980s in the following way:

> … there was a motley crowd [working in tobacco control], actually. A motley crowd of academics and a few people who were … working in public health. And people who had rather specific interests. Very few people, certainly in the lower and middle income countries. There was nobody working full time, it was more or less a part time job, sort of sandwiched in between their teaching duties and stuff like that (Mackay 2010).

Going on to characterize the motivation for individuals to undertake such work, she continued:

> I think, first of all there was the actual information about the havoc that smoking was causing. You know, 50% of people were dying from smoking. Half of those in middle age. So I think there was a recognition that this was huge *huge* problem. After the studies [done during the] 50's and 60's…the doctors' studies in the UK, studies that were being done in America, I think there was a recognition that this was a problem. And then it very quickly transpired that you actually had a fight on your hands. It wasn't like TB. It wasn't like trying to even solve malaria. We had a very powerful opponent in the tobacco industry. So it … selected out people who, I think, were probably Trojans (laughter). They were born warriors and fighters and were not going to take this [lying down]. I think there was an element of unusualness in all of the people, who, in my age, who started off (Mackay 2010).

The fact that the tobacco industry was not like TB or malaria – that this "vector" of disease actually *fought back* against intervention efforts – served as a source of motivation for these early anti-tobacco activists and provided the early international

tobacco control movement with a readily identifiable antagonist (Benford and Hunt 1992).

Mackay continued:

> When I think of all of them, they [all had] quite a strong ethical streak in them [about] what was right and wrong. And [were] determined to challenge a very formidable industry. They were quite an interesting group of people. Some were surgeons, some physicians, some were working in public health. There was all manner of different people [who] seemed attracted to this. And they had a kind of passion, I would say, that if you were working in TB it didn't seem so evident there... groups would go around and be noisy and be troublesome. They'd go around in Australia re-facing billboards, with the BUGA-UP group. The billboard-utilizing-graffitiists-against unhealthy promotions. They would go and re-spray the billboards so there were cheeky messages and things like that. You don't sort of get that with people working with diabetes or working with TB. So I think it attracted a rather unusual group of people in the early days (Mackay 2010).

The Australian activist group that Mackay highlights as exemplifying the spirit of early anti-tobacco activists, BUGA-UP (Billboard Utilizing Graffitists Against Unhealthy Promotions), further illustrates the moral outrage anti-tobacco frame.

BUGA UP

BUGA UP began as a splinter group of activities coordinated, in part by Emeritus Professor of Public Health and the University of Sydney in Australia, Simon Chapman. Then employed in community health education by the New South Wales (NSW) state government, Chapman and three colleagues formed a public interest group called MOP UP (Movement Opposed to Promotion of Unhealthy Products) to "provide an uncompromised alternative media voice to the staid and cautious equivocations of government officials" (Chapman 1996, 179). At the initial meeting, which was

convened somewhat theatrically in the lecture theatre of the Sydney city morgue, two members of the audience became impatient with what they saw as the terribly tame tactics envisioned: letter-writing and demonstrations. They urged more direct action by defacing (or "re-facing") billboard advertising promoting tobacco (and to a lesser extent, alcohol, sexist advertising and "conspicuous consumption") (Chapman 1996, 179). Chapman observes that the acronymic name of the group had the virtue of invoking the pidgin English expression meaning "to make a mess of, or to destroy". "Being mildly risqué", Chapman argues, "the expression and so the group's name took on added appeal to those who delighted in the Australian penchant for irreverence" (Chapman 1996, 179). (Chapman's own penchant for irreverence can be observed in his former Twitter-profile picture, reproduced in Figure 3.1).

Figure 3.1: Professor of Public Health Simon Chapman, Reproduced from https://twitter.com/simonchapman6 (accessed 2014).

In what can be considered an early form of culture jamming, members of BUGA UP would re-appropriate advertising messages, often by changing the letters in cigarette

brand names and slogans to disrupt the intended meaning portrayed on billboards (Walton 2012; Deitz 2014). Over the next decade, the group grew to include doctors, teachers, environmentalists, artists, health care workers, religious clergy and parents who, together, graffitied tens of thousand of billboards across every state in Australia signing their work with the acronym BUGA UP (Chapman 1996).

Figure 3.2: Dr. Arthur Chesterfield-Evans performs "surgery" on a billboard (1979)
Image Reproduced from www.bugaup.org (accessed January 2015)

Popular re-appropriations included:

- Sterling/Stinking
- Benson & Hedges/Burnson & Stenches
- Dunhill/Dunghill (or Lunghill)
- Longbeach/Lungleach
- John Player Special/ Lung Slayer Special
- Rothman King Size/Rotman's Lung Sizzle
- "New, Mild and Marlboro"/ "New, Vile and a Bore"
- "The Taste of Marlboro"/ "The taste of stale farts"
- "You're laughing/You're coughing"
- "Anyhow… have a Winfield"/ "Anyhow…have a Wank… it's healthier!"[48]

[48] "To wank" is a common Australian colloquialism for masturbation

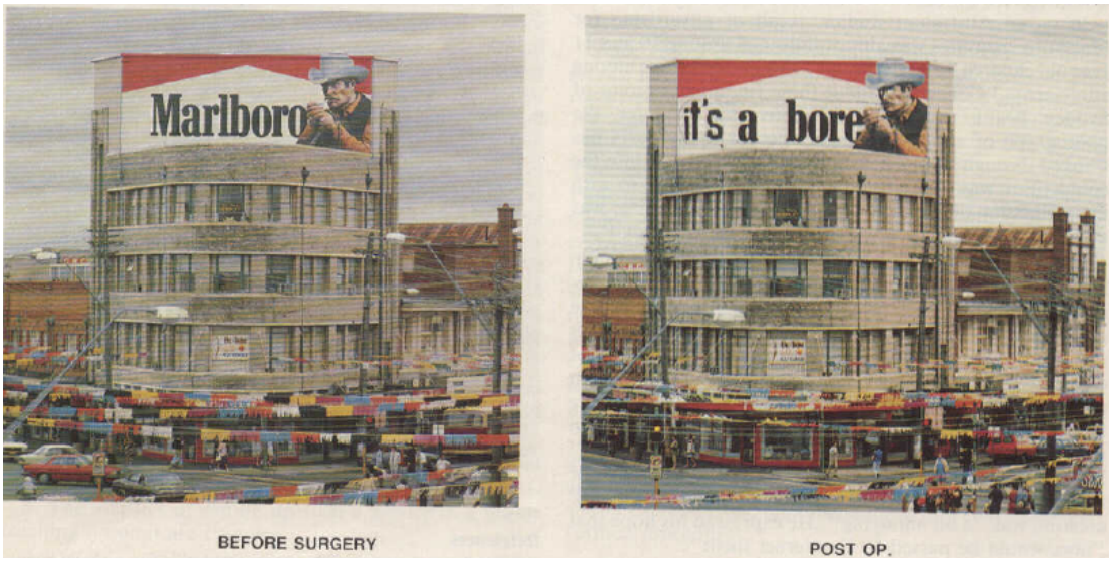

Figure 3.3: "It's a bore" on Oxford Street in Sydney
Image Reproduced from www.bugaup.org (accessed January 2015)

Figure 3.4: "Anyhow…" Winfield Billboard
Image reproduced from www.bugaup.org (accessed January 2015)

The activities of BUGA UP members occasionally led to arrests, which provided for additional publicity opportunities including lengthy dock statements during which defendants would explain their motivations. Dr. Arthur Chesterfield-Evans, a Sydney doctor, pleaded not guilty to the charge of malicious damage, explaining that his crime

was justified by his intent to prevent a higher order wrongdoing. “If I saw someone about to tip cholera germs into the water supply, I would try to stop him, even if it meant stealing the flask”, he reasoned (Chapman 1996, 181). As Chapman recounts it, “He went on to argue that, as a doctor, he found the intent and consequences of tobacco advertising equally reprehensible and felt justified in breaking what he argued was a trivial law in the hope of preventing the disease that would result from the success of tobacco advertising” (1996, 181).

Figure 3.5: Peter Jackson You’re laughing/You’re coughing billboard
Image reproduced from www.bugaup.org (accessed January 2015)

The arrests, subsequent court cases, and various other publicity stunts garnered extensive media attention including feature articles in the magazine and commentary sections of national newspapers, lead stories on current affairs television programs and an hour-long QED special for the British television network, the BBC. Other BUGA UP activities involved:

- staging a satirical advertising "awards" evening,
- skywriting "Cancer Country" in the skies above the 1984 Marlboro-sponsored Australian Open tennis championships
- publicly shaming advertising companies with tobacco accounts through targeted demonstrations outside their buildings
- entering an elderly, wheelchair-bound man who still smoked through a tracheostomy in a Philip Morris competition for an Australian Marlboro Man. BUGA UP produced a poster supporting their candidate which was placed on hundreds of street lamps throughout Sydney and even appeared on the cover of the Medical Journal of Australia. (Chapman 1996, 183).

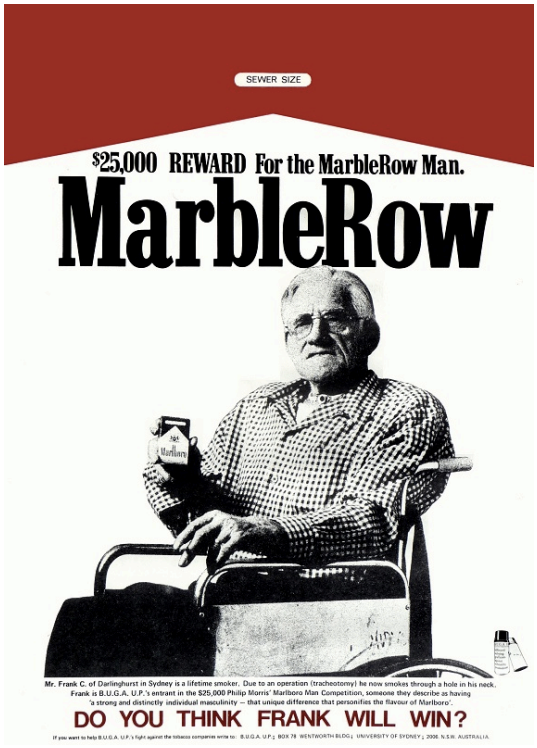

Figure 3.6: "Frank" – BUGA UP's entrant in Philip Morris' Australian Marlboro Man Competition
Image reproduced from www.bugaup.org (accessed January 2015)

According to Chapman, the press extended sympathetic treatment to the coverage of BUGA UP's activities:

> Media coverage invariably focused on what is best described as the Robin Hood phenomenon. BUGA UP activists were people, often

> revealed as entirely normal and respected citizens, who risked a criminal record in order to make their point. As those active in BUGA UP often said, "What is the worse crime? To vandalise the paper sheeting on an advertising [board], or to meekly accept the right of wealthy corporations to promote carcinogenic products to children? (1996, 182).

In addition to prompting international media coverage, members of BUGA UP promoted their work internationally by participating in international conferences and professional meetings. For example, Dr. Arthur Chesterfield-Evans presented the case of BUGA UP at the 5th World Conference on Tobacco or Health in Winnipeg – the same meeting to which Mike Muller had been invited to present his work. A version of his talk was later published in the New York State Medical Journal and reportedly received considerable attention in international media reports of the conference (Chesterfield-Evans 1983; Chapman 1996). The activities of BUGA UP also inspired similar billboard re-facing efforts overseas - especially in the UK and the USA.[49]

Finally, the transnational tobacco companies were attentive to the activities of Australian anti-tobacco activists, too. In a 1992 Corporate Affairs plan, Philip Morris executives observed:

> Australia has one of the best organized, best financed, most politically savvy and well connected anti-smoking movements in the world. They are aggressive and have been able to use the levers of power very effectively to propose and pass draconian legislation…The implications of Australian anti-smoking activity are significant outside Australia because Australia serves as a seedbed for anti-smoking programs around the world ("Corporate Affairs Plan: Philip Morris (Australia) Limited" 1992).

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[49] For example the early 1980s saw the emergence of COUGHUP (Citizens' Organisation using Graffiti to Halt Unhealthy Promotions), COUGHIN (Chitizens' Organisation Using Graffiti for Health in Neighborhoods) and TREES (Those Resisting an Early End from Smoking) in Great Britain. In the USA, instances of "billboard re-facing" were carried out in New Jersey, New York City and Philadelphia, Chicago and San Diego adopted similar tactics (Chapman 1996).

Similarly, a Representative for the Asian Tobacco Council observed:

> In Australia…we have perhaps the most virulent and nasty-edged anti-tobacco lobbies to be found anywhere in the world. There is nothing less than a battle raging in Australia and New Zealand, and all the guns are out, on both sides…they have seen it all down there, and there is more of that to come. It is a bear garden. It is a zoo, and aggression, political in-fighting, dirty tricks by the opposition, and all manner of hassle and public argument is a feature of the business in Australia (A. Turner 1990).

The activities of BUGA UP intensified over the 1980s and early 1990s until billboard advertising of tobacco products was banned in Australia in September 1994.

Because of the nature of BUGA UP's activities, it is hard to evaluate their precise impact – it would be impossible, for example, to attribute any particular tobacco control policy and tobacco advertising restrictions directly to the group. Nevertheless, BUGA UP's reputation spread throughout Australian and internationally and they remain a frequently reference touch point in the history of international tobacco control.[50] Simon Chapman believes that "the legacy of BUGA UP's actions is considered by many who have both participated in and observed tobacco control policy to have been profound" (1996, 179).

The peak years of BUGA UP's anti-tobacco activism coincided with a growing international movement for tobacco control. However, as this nascent international movement solidified, it embraced strategies that one key figure described as *advocacy*,

[50] Judith Mackay referenced the activities of BUGA UP in her comments above. But I also encountered frequent mentions of the group and their tactics in conference presentations and tobacco control events in Australia and internationally throughough my fieldwork.

as opposed to the *activism* of BUGA UP and illustrate the growing professionalization of the international tobacco control movement.

From Activism to Advocacy

In recounting the history of international tobacco control, anti-tobacco campaigner Judith Mackay drew a distinction between the "early days", characterized by the "activism" of BUGA UP and a later era of anti-tobacco "advocacy". When I asked her to elaborate on the distinction between the two, she drew on her personal experience to illustrate the difference:

> I think I changed [from an activist to advocate] when I realized that there were actually very few people who were actually working with governments. And who were, in a sense, sort of trusted advisors by governments and I could see there was a need for that… for me, the best role was to use the weight and wealth of my professional background and become a trusted government advisor. And especially working with World Health Organization. With WHO there was a need to, in a sense, behave rather like a WHO person (Mackay 2010).

Working *with* governments, rather than targeting the state through exogenously-initiated action, is key in this transition from activism to advocacy, as is the role of professionalization in the tobacco control movement.[51] This professionalization was aided, throughout the 1980s and 1990s by a number of key events. Firstly, the continuation of the World Conference on Smoking and Health (later Tobacco or Health) provided a quadrennial (later triennial) forum in which both the science of tobacco-

[51] Mark Wolfson has used the term "state-movement interpenetration" to characterize the high degree of interaction between the state and the tobacco control movement in Minnesota and the United States more generally (Wolfson 2001).

related disease and the emerging field of tobacco control policy could be advanced. Second, the American Cancer Society sponsored a meeting devoted *exclusively* to tobacco control policy (distinct from the science of the health effects of smoking). Held in 1985 in Washington DC, this meeting helped to consolidate and foster a sense of community among those working in tobacco control. As Mackay puts it:

> I think [one] key event was in 1985, when many of us were working separately all over the world in tobacco control. The American Cancer Society (ACS) held a meeting in Washington, DC, which in true American style, was called the First International Summit of World Smoking Control Leaders [laughter], which slightly amused the non-Americans in its grandiose terminology. But many of us met together then for the first time and realized what was happening in other countries (Reynolds and Tansey 2012, 29).

"It was a turning point", she says "because it was the first time *ever*, really, that the international tobacco control community got together" (Mackay 2010). Finally, the international peer-reviewed journal *Tobacco Control,* published by the British Medical Journals group, was founded in 1992 in order to "help foster communication, cooperation, and cohesion among the many organisations and individuals working in this field" (Davis 1992, 1). In his opening editorial, founding editor Ronald Davis emphasized the intended *international* orientation of the journal. He also rhetorically aligned tobacco control with the longer-standing terrain of international health: infectious disease control. "Similar to the control of infectious diseases", Davis argued, "the prevention and control of tobacco use require an understanding of the causative agents (tobacco products), the vectors (those who manufacture, advertise, distribute, and

sell tobacco products), the host, and the environment" (Davis 1992, 2).[52] Positioning the tobacco industry as the vector of disease incorporated the moral outrage frame of earlier anti-tobacco activism within a more familiar public health approach to disease prevention: the agent-vector-host triad.

According to some, the WHO also played an important role in the both the professionalization and the internationalization of tobacco control (Derek Yach 2014). Others, however, have argued that until the late 1990s, the WHO did not give sufficient attention to the transnational dimensions of tobacco control – i.e. that they failed to recognize "that you can't …regulate at a domestic level alone" (Reynolds and Tansey 2010, 12). What is widely agreed upon, however, is that prior to the confluence of a range of events culminating in the appointment of Gro Harlem Brundtland as Director General of the WHO in 1998, tobacco was not a priority for the WHO.

TOBACCO AT WHO 1970-1998

Early action on tobacco

The first formal action on tobacco at the WHO was a WHA resolution on tobacco passed in 1970 (WHA23.32). Its main interventions were to request that delegates of the WHA refrain from smoking at the assembly or in committee meetings and to call for further research into the tobacco problem. The 1970 resolution was

[52] The comparison to infectious disease went further: Davis claimed it was "baffling" that it had taken so long for a journal on tobacco control to be launched when, for example, "several journals devoted to AIDS were launched six or so years after then first published description of the acquired immunodeficiency syndrome" (Davis 1992, 1). "Does it make sense" he asked, "that the *yearly* world conference on AIDS attract 8000 participants, whereas the *biennial* world conferences on tobacco and health attract 1000?" (Davis 1992, 1 emphasis in original)

adopted in response to a report prepared by Dr. S. M Fletcher, Professor of Clinical Epidemiology at the Royal Postgraduate Medical School in London, and Dr. Daniel Horn, Director of the US National Clearinghouse for Smoking and Health (responsible for the Surgeon General's reports) (Fletcher and Horn 1970). Building on the experiences of their home countries, Fletcher and Horn warned "In countries where deaths and disability associated with cigarette smoking are already at high levels much more preventive action is needed. In developing countries where cigarette smoking is rapidly taking hold, measure are needed to arrest the growth of the habit and thus to prevent the increasing premature deaths and disablement it would inevitably cause" ("Smoking and Its Effects on Health" 1975). The report recommended that steps be taken to promote the reduction or discontinuation of cigarette smoking and to discourage young people from initiating smoking, especially through public education campaigns and cigarette package warnings (1975, 39, 70-71).

Further reports of Expert Advisory Panels (WHO 1975, 1979, 1982, 1988) and WHO resolutions followed, each urging member states to implement incrementally stronger tobacco control policies at the national level. Table 3.1 lists all WHO resolutions concerning tobacco from the initial resolution adopted in 1970 until the adoption of the FCTC in 2003 (hyperlinks to the text of each resolution are embedded in the resolution number).

Table 3.1: Resolutions of the World Health Organization's World Health Assembly

Twenty Third World Health Assembly, Geneva, 5-22 May 1970 WHA23.32 Health Consequences of Smoking
Twenty-Fourth World Health Assembly, Geneva, 4-20 May 1971 WHA24.48 Health consequences of smoking
Twenty-Ninth World Health Assembly, Geneva, 3-21 May 1976 WHA29.55 Smoking and health
Thirty-Third World Health Assembly, Geneva, 5-23 May 1980 WHA33.35 WHO's programme on smoking and health
Thirty-First World Health Assembly, Geneva, 8-24 May 1978 WHA31.56 Health hazards of smoking
Thirty-Ninth World Health Assembly, Geneva, 5-16 May 1986 WHA39.14 Tobacco or health
Forty-First World Health Assembly, Geneva, 2-13 May 1988 WHA41.25 Tobacco or health
Forty-Second World Health Assembly, Geneva, 8-19 May 1989 WHA42.19 Tobacco or health
Forty-Third World Health Assembly, Geneva, 7-17 May 1990 WHA43.16 Tobacco or health
Forty-Fourth World Health Assembly, Geneva, 6-16 May 1991 WHA44.26 Smoking and travel
Forty-Fifth World Health Assembly, Geneva, 4-14 May 1992 WHA45.20 Multisectoral collaboration on WHO's programme on "tobacco or health"
Forty-Sixth World Health Assembly, Geneva, 3-14 May 1993 WHA46.8 Use of tobacco within United Nations system buildings
Fortieth World Health Assembly, Geneva, 4-15 May 1987 WHA40.38 7 April 1988: a world no-smoking day
Forty-Eighth World Health Assembly, Geneva, 1-12 May 1995 WHA48.11 An international strategy for tobacco control
Fifty-Second World Health Assembly, Geneva, 17-25 MAY 1999 WHA52.18 Towards a WHO framework convention on tobacco control
Forty-Ninth World Health Assembly, Geneva, 20-25 May 1996 WHA49.17 International framework convention for tobacco control WHA49.16 Tobacco-or-health programme
Fifty-Fourth World Health Assembly, Geneva, 14-22 May 2001 WHA54.18 Transparency in tobacco control
Fifty-Sixth World Health Assembly, Geneva, 19-28 May 2003 WHA56.1 WHO Framework Convention on Tobacco Control
Fifty-Third World Health Assembly, Geneva, 20 May 2000 WHA53.16 Framework convention on tobacco control

The Expert Advisory Panels drew on a range of professionals experts: anti-tobacco activists, academics and those active in the World Conferences on Tobacco and Health. For example, the WHO Expert Committee on Smoking Control that met in October 1978 and prepared the 1979 *Controlling the Smoking Epidemic* report consisted of 26 members from 19 different countries ("Controlling the Smoking Epidemic" 1979). Only one – Dr Roberto Masironi – was a full-time employee of the WHO. The remaining members of the group were academics, employees of national health ministries and health associations, and members of civil society organizations such as Action on Smoking and Health (ASH) (1979, 5-6). The various reports consistently emphasized advertising restrictions, health warnings on tobacco products and public education campaigns as methods for curtailing the tobacco problem.

Following on from the 4th World Conference on Smoking and Health held in Sweden in 1979 (Ramström 1980), the WHO's next annual World Health Day was devoted to tobacco control (World Health Day 1980 -Tobacco or Health: You decide). That same year, WHO's programme on smoking and health was established. However, the programme consisted of only one staff member – Masironi himself – had only a small budget and enjoyed little organizational support. (Reynolds and Tansey 2012, xxiii). At the urging of various anti-tobacco activists, WHO Director General Halfdan Mahler agreed to convene another group of experts to prepare a Global Action Plan on Tobacco or Health in 1988, for which Judith Mackay served as rapporteur. This helped launch World No Tobacco Day, held on 7th April 1988 – the 40th anniversary of the

founding of the WHO – and repeated annually since (Reynolds & Tansey 2012, xxiii). The WHO tobacco unit was also modestly expanded by one staff member (WHO 1988).

The year 1988 also marked the beginning of Dr Hiroshi Nakajima's decade-long tenure as Director General of the WHO – a period characterized by significant decline in the organization's credibility and prestige (See Chapter 1). And as the general fortunes of the WHO declined, so too did those of tobacco unit. When Roberto Masironi retired from WHO in 1991, Canadian public health official Neil Collishaw took over as Programme Director of the tobacco unit. In an oral history interview, Collishaw described the situation of tobacco at the WHO during these years in the following way:

> [The tobacco unit] was always very small, including when I was there. The very first efforts of WHO to do very much about tobacco came in 1970 when they adopted a resolution. Then there were a number of expert reports that were issued [and] technical reports on tobacco that were issued in the 70's and 80's. But the secretariat was woefully small and underfunded… WHO in general is woefully underfunded…And because tobacco was kind of a Johnny-come-lately (the first resolution wasn't until 1970 and by then a lot of other programs had been well established) it really has never been able to command much [funding] (Collishaw 2013).

Collishaw has elsewhere noted that the relative neglect of tobacco control by the WHO was not due to a lack of interest in the issue by the Director General, pointing out that "Dr Nakajima – the DG for most of my tenure in WHO – was always very interested in tobacco control. He was supportive of what we were doing" (Reynolds and Tansey 2010, 34). Instead, the lack of support came from the member-states themselves:

"[Nakajima] was not particularly successful in attracting funding from member states for tobacco control" (Reynolds and Tansey 2010, 34).[53]

Figuring the Numbers

In addition to convening Expert Panels and preparing Reports, the main activity of the tobacco unit during the late 1980s and early 1990s was to prepare estimates for global tobacco-related mortality. As Collishaw recounts:

> [O]ne of the things we did was, we prepared the first sound scientific estimates of the number of deaths in the world due to tobacco use… [O]ur first estimate for the 1990's were about 3 million deaths a year. And I used to say well, you know...that's one million deaths per staff member… Counting the secretary. (Laughing)… So we felt like we had a lot of responsibility but very little in the way of means to deal with it. (Collishaw interview)

In preparing these estimates, Collishaw drew considerably on the work of WHO colleague and co-author of the Global Burden of Disease (GBD) study: Australian statistician Alan D. Lopez.

Lopez had a long-standing interest in changing patterns of disease using historical descriptive epidemiological data –mortality and causes of death statistics – as well as a growing in interest in tobacco epidemiology (Lopez 2013). According to Lopez, the motivation for producing sound tobacco mortality estimates stemmed from a lack of reliable numbers at the global level:

WHO's authority in tobacco was weakened by the fact that the tobacco

[53] As a tobacco industry document reported: "It would appear that WHO is unwilling to boost the [Tobacco or Health] programme significantly, either in terms of budget or status within the Organization for fear of offending its biggest budgetary contributor, the USA, whose pro-tobacco lobby is still powerful in Congress, a body that loses no opportunity to threaten the UN system with cuts in funding" (Lindheim 1994).

> industry was making fun of WHO estimates where one day you say this, one day you say that, you can't be serious, therefore tobacco can't be harmful…WHO was a very weak advocate in those days because it didn't have *good science* (Lopez 2013).

In Lopez's view, the efforts of the international tobacco control movement were constrained because of a lack of reliable scientific estimates of tobacco-related mortality. Lopez continues:

> …[W]hen I came over there [and] linked up with [Sir Richard] Peto to produce those estimates [it] immediately changed the landscape. The tobacco industry went quiet after that. There was no longer that kind of challenge of whether these numbers are right or not…So suddenly the tobacco advocates in countries had estimates for their country. They had them from the great respectability of the very wise old man at Oxford Richard Peto and his sidekick Alan Lopez of WHO…
>
> And I think that the work that Richard and I did helped bring coherence, reduce uncertainly, allow people to be more confident in what they were saying and doing about the harms of tobacco and the need for tobacco control measures. WHO then started to use those and disseminate those numbers and the projections that Peto and I were making about what's going to happen if we don't do something serious about tobacco control. 3 million deaths today, 10 million deaths in our lifetime by I think we predicted for 2025 or 2030. (Lopez 2013, emphasis added).

By producing reliable numbers – i.e. *good science* – Lopez and his collaborators hoped to equip in-country tobacco control advocates with a powerful tool with which to argue for tobacco control measures. Lopez thus points to the interdependence of tobacco control science and tobacco control policy at the international level: members of the international tobacco control movement helped motivate the WHO to undertake scientific studies of the tobacco problem. The results of these studies then helped further catalyze in-country tobacco control activities. In other words, the science and policy of tobacco control were being coproduced. Importantly, Lopez's numbers captured not just

the current state of tobacco mortality but the *future* impact of the tobacco epidemic "if we don't do something about it". This equipped tobacco control advocates with an important epistemic resource that was based in *good science,* oriented towards the speculative future and aimed at preventing these avoidable deaths.

In producing these numbers, Lopez worked with two different collaborators: with US health economist, World Bank consultant, and fellow GBD study co-author Christopher Murray (see Chapter 2) and with famed tobacco epidemiologist Sir Richard Peto.[54] Peto was then employed by Oxford University and had recently been undertaking work on tobacco deaths in China as part of the World Bank's Disease Control Priority Project (Lopez 2013; Peto et al. 1992).[55] Lopez explained the different collaborations in following way:

> [The estimates] were made essentially two ways… Peto and I made estimates and then Murray and I made estimates in [the GBD study]. Part of the global burden of disease was for 10 risk factors (a disappointingly, *laughingly*, small number of risk factors compared to what we do today), one of which was tobacco.[56] And then we also…did risk factor projections after 2020, including [for] tobacco. So Murray and I had a completely different method, statistical method, based on multiple regressions, basically, for modeling the impact of tobacco.

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[54] Lopez initially worked in the health statistics unit of the WHO only moving to the tobacco unit after his involvement with Christopher Murray and the GBD study make him deeply unpopular at WHO (Lopez 2013).

[55] The Disease Control Priority Project which, like the GBD study, served as background to the World Bank's World Development Report 1993: Investing in Health, applied W. Henry Mosley's *categorical* approach to health systems planning using disease burden and cost-effectiveness analysis as criteria for prioritizing health interventions. See Chapters 1 & 2 for further discussion of the categorical approach and DCPP, respectively.

[56] The risk factors assessed in the GBD study included malnutrition; poor water supply, sanitation and personal/domestic hygiene; unsafe sex; tobacco use; alcohol use; occupation (that is, exposure to hazards through work); hypertension; physical inactivity; illicit drug use; and air pollution (Murray and Lopez 1996b, 27).

> Peto and I had another method, which was essentially built around looking at the volume of smokers in the world today, [and asking] how many of them are likely to continue? Of those who continued how many of them [would be] killed by the habit, and when [would they] be killed? And we just did these series of predictions of cohort after cohort, and then just took vertical slices to add out what we thought would happen at a particular point of time.
>
> We choose 2030 because we said that's roughly the time (on current tobacco projections) when the current hazards that we see in Australia, the UK, US, [would] happen in China and India and in big, large populations…of smokers in developing countries… Murray and I predicted, I think, about 8 million tobacco deaths in 2020. Peto and I predicted about 10 million tobacco deaths in 2030.
>
> Whether it's 8 or 10 million, that's *annual* deaths, it's an enormous, *absurd* volume of preventable mortality… And so those numbers started to be increasingly used in the global tobacco dialogue. Peto and I would give talks at tobacco conferences and global epidemiology conferences. There was often this partnership where I'd go first and present the latest global burden of disease results. Peto would then come next to take those results and say how much was due to tobacco. So we had this very interesting, powerful partnership I think in various places (Lopez Interview).

In both of these collaborations, Lopez, working at the WHO, collaborated with World Bank-sponsored researchers: Christopher Murray through the GBD Study and Richard Peto, whose work on tobacco mortality and China had been sponsored as part of the World Bank's DCPP projects. These numbers were then circulated widely at international tobacco and epidemiology conferences i.e. the very same venues in which the international tobacco control movement was undergoing professionalization and coalescence.

I asked Lopez about the impact of these mortality estimates on the international tobacco control movement, proposing that his descriptive epidemiology was critical to the eventual success of the FCTC. He was careful to give due credit to early

international anti-tobacco activists, but also agreed that the numbers were crucially important:

> [W]hen we entered the fray, which was the late 1980's, early 1990's (I said "we" as Murray and Lopez on one hand through the Burden of Disease including tobacco as a risk factor and Peto and Lopez…through the sort of Peto-Lopez method), when we entered the fray I'd say in early 1990's there were already very good people – Judith McKay in China, the Australian people like Simon Chapman and others - they were doing very good work in getting the hazards of tobacco as best they were known into the public arena for tobacco control. Tobacco control in Australia started in the 1970's, two decades, basically, before Peto and I were active in our work. [E]nough was known about the individual epidemiology…[but] What was *not* known was the population health effects… what does it mean for Australia, what does this mean for the US, what does this mean for the *world*?
>
> That only started to unravel, basically, when we started to derive these global numbers…so there was already a nascent effort, absolutely…We came along and said we've got a way to quantify this now. This is what it's going to mean today and this is what's it's going to mean in the future. That had, I think, a pretty catalyzing impact (Lopez 2013).

Two aspects of Lopez's response are worth highlighting. First, these "global numbers" provided a way to quantify the tobacco problem, which had a "catalyzing impact" on the international tobacco control movement. Second, Lopez and his colleagues' methods captured not only the *current* state of the tobacco problem, but the anticipated *future* impact of the tobacco epidemic.[57] They thus proposed a model of the cigarette epidemic that followed the broad contours of the epidemiological transition, concerns about which had motivated much work in health systems planning at the World Bank (See Figure 3.7). In their paper, *A Descriptive Model of the Cigarette Epidemic in Developed Countries* (1994), Lopez, Collishaw and WHO colleague Tipani Pha

[57] See Chapter 2 for the future-orientation of the broader project of *Investing in Health*

concluded that “The arithmetic of the tobacco epidemic is simple and stark. Cigarettes kill half of their lifelong users”(246).

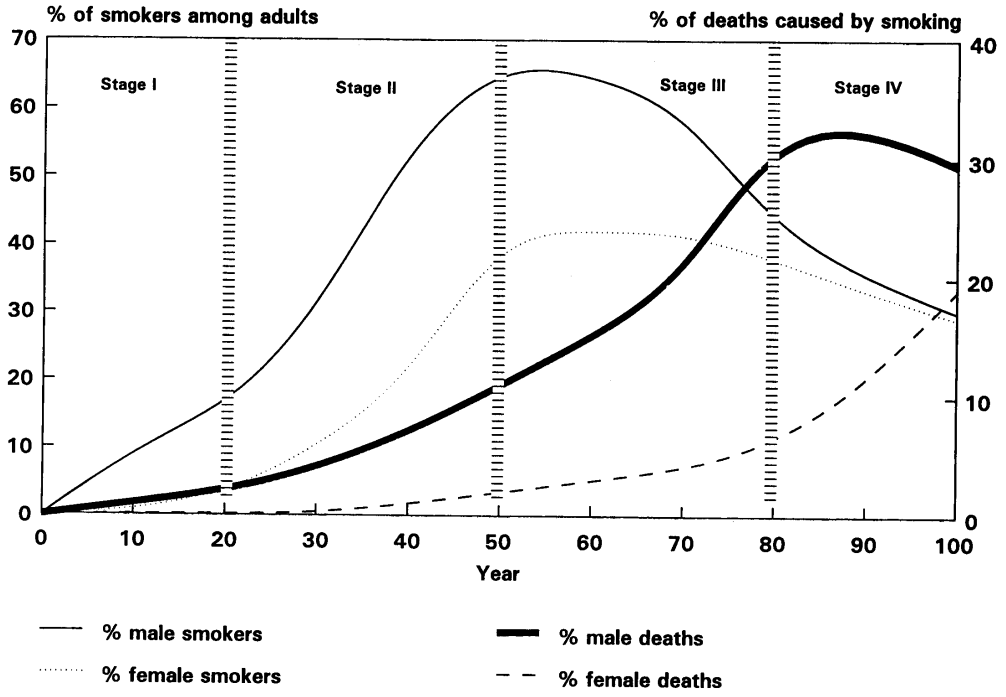

Figure 3.7: A model of the cigarette epidemic.
Reproduced from (Lopez, Collishaw, and Piha 1994)

Without comprehensive regulatory action to discourage tobacco use, they warned, “this epidemiological transition, with tens of millions of premature deaths which result form it, is virtually certain to happen” (246).

While these numbers had what Lopez called a “catalyzing impact”, they also served to significantly reframe to global tobacco threat. Instead of being framed primarily in terms of moral outrage at a neocolonial capitalist tobacco *industry*, the global tobacco threat was characterized as an impending *epidemic* of avoidable death and disease. After later investigations undertaken by the World Bank into the

economics of tobacco, the global tobacco threat came also to be characterized as a net economic loss. Importantly, it was this characterization of the impending global tobacco epidemic – couched in the seemingly neutral language of numbers produced via epidemiological and economic calculation – that eventually gained traction with the important multilateral organizations involved in world health: the World Health Organization and World Bank.

Budgetary crises and inadequate resources

Despite the stark warnings of the coming tobacco epidemic contained in these data, tobacco control did not immediately become a priority at the WHO. As Neil Collishaw recounts it:

> [W]e certainly made the best use of that material that we could. And we used the mortality estimates plus other estimates that Alan and I worked up on the number of cigarettes consumed and the number of smokers around the world...we used all that in our public communications. But, it didn't make people sit up and take notice and say, well, my goodness there are so many dead people here we should shower money at these people so they can get on with their job (Collishaw 2013).

"In fact", Collishaw goes on to say, "things went the other way... for a while the tobacco program kind of lost bureaucratic influence in that we were combined with the program on substance abuse and for a time I had to take on additional responsibilities for alcohol control and illicit drug control" (Collishaw 2013).

Collishaw links the lack of support for tobacco control at WHO during the 1990s to ongoing problems of budget allocation within the organization. As noted above, while Nakajima was supportive of tobacco control in principle, he was not particularly successful in attracting funding from member states for tobacco control. He

was, Collishaw notes, “somewhat successful” in attracting funding, “with respect to his home country, but other than that… not so successful. (Reynolds and Tansey 2012, 32). Collishaw’s reference to being “successful with respect to his home country” here refers to Nakajima’s distribution of extra-budgetary funds from the Japanese Shipbuilders Foundation (now the Nippon Foundation) to the tobacco unit. Collishaw recounts the problems of the tobacco control unit’s dependency on extra-budgetary funding:

> So [tobacco control] has largely depended on voluntary contributions. Well voluntary contributions are based on various forms of whimsy and....they come and they go right?
>
> [So] the director general at the time was Dr. Nakajima, who was Japanese, and Mr. Sasakawa who was a Japanese industrialist and head of the Japanese Ship Building Foundation gave some money to WHO. Dr. Nakajima deployed the money as he saw fit, and for a while he deployed some of it to us. Then after a while he deployed less of it to us, because he had other priorities to meet. And I think Sasakawa changed, he decreased the amount he was giving, in any case…[B]ut just going back to the dynamic of how WHO is funded; everything these days that gets funded in WHO has to depend on these voluntary contributions. Well... you know the world is mostly poor right? There's 75% of the world's population lives in developing countries that really can't afford to spend more than the minimum for public health. So the contributions mostly come from the 15 or 20 countries that can afford it and are interested in making voluntary contributions. And they'll only make voluntary contributions to things that they are interested in.
>
> The other problem is, if you've only got two or three staff members and an organization with 9000 people, you don't have a lot of bureaucratic weight to throw around. Even though I'm a big guy and I got sharp elbows. There's just a reality that 3 people just isn't very many.
>
> If other people had more bureaucratic weight to throw around … despite the size of the tobacco problem, tobacco gets shoved aside. That's kinda what happened there.

Here Collishaw identifies the same problems of budgetary scarcity and reliance on extra-budgetary funding that scholars of world health have indicated as a cause and

consequence of the WHO diminished credibility and legitimacy during the transition from international to global health during the 1990s.

Collishaw goes on to explain that despite inadequate funding and limited bureaucratic weight "we persevered and managed to make progress and I think the key then occurred around 1993, 94 in there" (Collishaw 1993). Originating from outside *both* the WHO and the international tobacco control movement, the key event to which Collishaw refers was the development of the idea for a legally-binding approach to international tobacco control. Collishaw describes it as such:

> I was approached by a couple of American colleagues, Ruth Roemer who was from California and [former] head of the American Public Health Organization and was a lawyer by profession, and her colleague Allyn Taylor, another law professor. And Allyn had written a thing about how international law could be used to better effect health regulation in general. And Ruth Roemer was quite taken by this and came to see me and said, 'well...this is a great idea! We should have an international convention on tobacco control.' And I said 'that sounds like a wonderful *dream'*… Undaunted she said, 'Oh...if we build it they will come'.

And so began the process of building Roemer's dream.

CONCLUSION

In Chapter 2, I argued that the creation of the DALY metric and the findings of the GBD Study and DCP Project were necessary, but not sufficient conditions for the eventual passage of the FCTC treaty. In this chapter, I began to trace the various other factors that contributed to the eventual passage of the treaty. Here, I detailed the early movement for international tobacco control. Ignited by scientific findings about the negative health effects associated with smoking and animated by a sense of moral

outrage that the tobacco industry could recklessly pursue its own profits at the expense of human health, the early movement espoused an anti-corporate ethos that can be seen in Mike Muller's work on Tobacco in the Third World and in the activities of the Australian anti-smoking BUGA UP. However, this moral outrage frame did not achieve resonance with the discursive context of field of world health at the time, which was focused primarily on themes of infant mortality and child survival. Throughout the 1980s and 1990s the international tobacco control movement underwent considerable professionalization – launching an international journal, continuing international conferences, working with national governments and gaining a foothold at WHO in the Programme on Smoking and Health. However, without dedicated budgetary support and with little institutional weight amidst a large number of often competing priorities, tobacco control was not a priority for WHO during these years.

With the publication of the GBD study and Alan Lopez, Richard Peto and Neil Collishaw's continued work on global tobacco mortality, the global tobacco threat came to be characterized in terms of the current and projected future *burden* of tobacco related disease i.e. as an impending global tobacco epidemic. Framed in the seemingly objective language of disease burdens and, later, health economics, the global tobacco epidemic then began to gain prominence at the WHO. In this next chapter, I show how tobacco was adopted as a WHO priority in the late 1990s following the appointment of Dr. Gro Harlem Brundtland as Director General of WHO.

CHAPTER 4:

THE MAKING OF A WHO TREATY: GRO HARLEM BRUNDTLAND, WHO REFORM AND THE FRAMEWORK CONVENTION ON TOBACCO CONTROL

In the previous chapter, I traced the development of the early movement for international tobacco control through its inception in the late 1960s, its mobilization of a moral outrage frame during the 1970s and 1980s, it growing professionalization during the 1980s and into the 1990s and finally, the characterization of the tobacco threat as an impending epidemic in the early to mid 1990s. Having sketched the history of international tobacco control up until the 1990s, in this chapter I turn more specifically to the history of the Framework Convention on Tobacco Control itself.

I begin with its initial conceptualization by Allyn Taylor and the uptake of Taylor's idea by public health activist and Professor of Health Law at UCLA Ruth Roemer. Roemer enthusiastically promoted the idea within the international tobacco control community and at the ninth World Conference on Tobacco or Health in Paris in 1994, which led to the creation of the WHO resolution in support of a tobacco treaty soon after. However, the idea for a FCTC was initially met with skepticism and even hostility at the WHO, especially from the WHO's legal department. It was eventually embraced by Dr. Gro Harlem Brundtland upon her election as Director General of the

WHO in 1998. Importantly, Brundtland adopted the World Bank's World Development Report 1993: *Investing in Health* as her "roadmap" to reforming the WHO and was guided by its recommendations for structuring national health systems according to a logic of economic rationalization, i.e. DALYs gained for dollars spent. Tobacco control presented an opportunity for the WHO to: 1) demonstrate its technical leadership by mobilizing epidemiological evidence in support of a legally-binding approach global tobacco control and 2) re-assert its moral voice regarding health equity, especially in light of the disproportionate burden of tobacco-related illness that was projected to fall on countries of the global south. It also gave the WHO an opportunity to position itself as the lead coordinating body within the field of global health by enacting Article 19 of its constitution and negotiating an unprecedented legally-binding health treaty. Tobacco control became a WHO priority at this point: Brundtland created the Tobacco Free Initiative (TFI) and appointed South African epidemiologist and anti-smoking campaigner Derek Yach as its head. With Brundtland at the helm of the WHO and Yach as head of the TFI, negotiations for the FCTC quickly got underway.

During the treaty-making process a number of developments helped speed its passage: public hearings in advance of treaty negotiations, the creation of an active transnational NGO movement, the deployment of various rhetorical strategies and, crucially, the publication and dissemination of the World Bank's *Curbing the Epidemic* (1999) report during the negotiations. I detail the significance of each of these developments in turn. Throughout this history, I pay particular attention to the relationship between science and politics and to the persuasive power of the putatively objective evidence base of global tobacco control in the history of the FCTC treaty.

I argue that the transition from international to global health during the late 1980s and early 1990s constituted a change in the *political and discursive opportunity structures* in the field of world health (Ferre et al. 2002, 62; McAdam, McCarthy and Zald, Koopmans etc). Amidst the newly altered global health landscape, the results of the GBD study and DCP Project, as well as the World Bank's economic framing of the tobacco epidemic became compelling evidence in support of international tobacco control. Here, the threat posed by tobacco could be framed in the seemingly objective, scientific language of health economics. This economic framing found resonance with important constituencies – with the World Bank, of course, and with representatives of national Ministries of Finance of WHO member-state delegates. The implicit political rationality of the DALY-method (its particular way of quantifying disease and *economizing* life that I discussed in the previous chapter) and the associated *burden* of disease concept and *cost-effectiveness* emphasis achieved resonance amidst the neoliberal transformation of the field of world health during this era.

At the same time, the appointment of Gro Harlem Bruntdland as Director General of the World Health Organization in 1998 provided a crucial *transnational political opportunity structure* (Kay, 2005, 722) for the tobacco control movement. At this point, the international tobacco control became, itself, transnationalized. With key allies in transnational actors such as the WHO and World Bank the international tobacco control movement became a *global* tobacco control movement.

In her role as Director General, Brundtland was tasked with reforming the WHO and with reasserting the centrality of the languishing organization within a newly crowded field of global health actors. By adopting the FCTC as a WHO priority,

Brundtland was able to partially realize her vision for the WHO as "the moral voice and the technical leader in improving the health of the people of the world" (1998 Speech to General Assembly). The epidemiology of the tobacco threat, especially the DALY-characterization of tobacco as a ranking cause of global disease burden that would disproportionately affect the global south, served as an *epistemic hinge* between the moral outrage framing invoked by the international tobacco control movement and the epidemiological/economic characterization of the tobacco epidemic adopted by the WHO and World Bank. Brundtland effectively brokered across the moral outrage frame and epidemiological/economic characterization, garnering support for the treaty among a wide variety of individuals, organizations and movement actors.

While Brundtland was no doubt central to the successful passage of the FCTC, her accomplishments were made neither alone nor in a historical and political vacuum. Instead, as I try to highlight here, Brundtland mobilized a particular set of constraints and opportunities that emerged at the intersection of a changing world health context, the creation of an epidemiological and economic characterization of an impending global tobacco epidemic and an evolving movement for international tobacco control. In other words, the FCTC treaty was not produced by Brundtland alone, but was *coproduced* with the changing characterization of the tobacco threat and context of world health during the 1990s.

THE ORIGINS OF THE FCTC: TAYLOR & ROEMER, THE PARIS WORLD CONFERENCE AND INITIAL RESISTANCE AT WHO

The idea for the FCTC treaty was initially developed in more abstract form by American Allyn Lise Taylor who, at the time, was working on a doctoral dissertation in international law at Columbia University. Taylor was concerned with the relative neglect of instruments of international law in advancing health policy (Taylor 2013. See also Taylor 1992). Drawing inspiration from other areas of international regulation, especially from environmental law, Taylor argued that WHO should use the long-neglected treaty-making function enshrined in Article 19 of its constitution to advance the Alma-Ata agenda of Health-for-all by the year 2000. She also identified what she saw as a shortcoming of the WHO: that in dealing only with ministries of health, the WHO lacked sufficient political power to effect change at the national level:

> The primary participants in WHO's policy debate and strategy development in the national and international arenas are state ministers of health, technocrats who generally lack significant influence or power in national political systems. WHO's organizational policy of working directly within national ministries of health often falls short of focusing the discussion of Health for All to include political elites, or expanding it to encompass the public. In many countries, this approach has resulted in inadequate consideration of Health for All by political leaders (Taylor, 1992 pp. 335-336).

Taylor argued that if WHO could overcome its conservative organizational culture and its reluctance to invoke Article 19, international law could offer an effective way of advancing the Health-for-all strategy.

Her ideas were published in the American Journal of Law and Medicine under the title *Making the World Health Organization Work* (Taylor 1992). The article was then brought to the attention of Ruth Roemer, then a professor of Public Health at the University of California, Los Angeles. Roemer was a trained lawyer, "staunch political

liberal and a lifelong fighter for social justice", who had long been active at the intersection of law and public health working on issues surrounding psychiatric hospital admissions, access to abortion and tobacco control (Taylor 2005). Roemer also had international health expertise having been stationed in Geneva at the fledgling WHO in 1951 with her husband Milton Roemer, before charges of disloyalty to the US under McCarthyism caused them to flee to Canada. The Roemers were great advocates of universal health care and saw privatization of health systems as a primary cause of health inequalities throughout the world (Roemer and Roemer 1990; Roemer 1988; Roemer 1988).

Roemer saw great potential in Taylor's suggestion of using international law to advance global public health and suggested the area of tobacco control as a particularly fruitful application. Tobacco legislation was at the forefront of Roemer's mind in 1993, as she had recently completed the second edition of a WHO-sponsored survey of tobacco control legislation worldwide: *Legislative Action to Combat the World Smoking Epidemic* ([1982]1993). While Roemer's own work on tobacco control legislation focused exclusively at the national level, she saw in Taylor's article the potential for international regulation.

In July 1993, Ruth and Milton Roemer met with Allyn Taylor over lunch at the UCLA faculty club. When Ruth Roemer suggested that Taylor apply her ideas to tobacco control, the idea "just clicked" in Taylor's mind (Taylor 2013). It seemed to her that tobacco could be a perfect application of international law, especially from a *technical* standpoint. The tobacco market was dominated by a handful of transnational tobacco corporations who used similar strategies to market their products across

different national contexts. At the same time, a well-defined set of intervention strategies had been proven effective in discouraging tobacco consumption at the national level. Both of these considerations made tobacco control particularly amenable to international regulation (Taylor 2013).

Over the next year Taylor continued to develop the technical arguments in support of a tobacco treaty. Her work, however, was not initially well received. Presenting a paper at the Academic Council of the United Nations System at the Hague in June 1994, Taylor recalls the commentator beginning her comments by asking "What's the big deal with tobacco?" And the comments went downhill from there (Taylor 2013. See also Taylor 1994). Similarly, when Taylor submitted her ideas to the 9th World Conference on Tobacco or Health held in Paris 1994, her work was accepted only in poster form (Taylor 2013).

At the same time that Taylor was further developing the *legal* arguments for international tobacco regulation, Roemer was promoting the idea of a tobacco treaty among her fellow international public health advocates. In the summer of 1993, Roemer presented the idea at the First All-Africa Conference on Tobacco or Health, co-chaired by Derek Yach (Roemer, Taylor, and Lariviere 2005; Chapman et al. 1994).[58] In October, she visited WHO headquarters in Geneva and discussed the idea with a number of senior staff members, including Neil Collishaw (see Chapter 3). Later that month, she promoted the idea at the annual meeting of the American Public Health Association in San Francisco. While there, she met with fellow tobacco control

[58] Yach would later become the head of the WHO's Tobacco Free Initiative under Director General Gro Harlem Bruntland.

advocate, Judith Mackay. Mackay recounts the meeting as follows: "On 26 October 1993, Ruth Roemer invited me for an unforgettable breakfast during a conference in San Francisco. Had WHO ever considered a convention on tobacco? she asked me. I replied that WHO had meetings all the time – some might say too many! Ruth patiently explained that she meant a UN-style convention and asked me to convey this idea to WHO" (Mackay 2003, 551).

Mackay followed up on Roemer's initial presentation of the idea to WHO and to the UN Conference on Trade and Development (UNCTAD), which was then the UN focal point for tobacco, but "it was very negatively received" (Mackay 2010). "You know," Mackay told me, "it had never been done before… There was an awful lot of impasse and inertia and the feeling it was too difficult" (Mackay 2010). Nevertheless, Roemer, Mackay and Collishaw all continued to promote the idea for a legally binding tobacco treaty both within the WHO and within the broader international tobacco control movement.

The Paris Conference

One success came when they managed to get a resolution in support of the idea adopted by the 9th World Conference on Tobacco and Health in Paris in 1994. Collishaw recounted the story to me in the following way:

> [I]n [19]94 there was a World Conference [on Tobacco and Health] in Paris… And as luck would have it I was on the resolutions committee, which decided which resolutions presented by delegates would come for a vote. And the resolutions were submitted, theoretically anonymously, and the committee reviewed them, read them and picked the best ones.

> So I was looking at these resolutions and there was one hand written one and I recognized the handwriting, [as] Ruth Roemer's. And sure enough, she wanted an international convention. And so the other members of the committee didn't, you know, they thought the convention was where we were at.
>
> Interviewer: Like a conference?
>
> … so they kind of looked at me and said what's this? And I said "oh that's a good one. Let's put that one in". And they said "well ok, you know...you're from WHO (Collishaw 2013)

The Paris conference thus adopted the resolution, which read: "This conference resolves that National Governments, Ministers of health, and the World Health Organization should immediately initiate action to prepare and achieve an International Convention on Tobacco Control to be adopted by the United Nation…" (Mackay 2003, 551).

The Paris conference was significant in another way too: for the first time, global estimates for the *economic* impact of tobacco were produced. World Bank economist Howard Barnum had, in the early 1990s, started to calculate the costs and benefits of tobacco production as part of the World Bank's investigations into categorical cost-effective health packages (Jamison et al 1993).[59] As the disease-burden associated with tobacco consumption became apparent through the GBD Study, DCP Project and the World Development Report 1993: *Investing in Health*, the World Bank ceased lending for tobacco production. The Bank also commissioned further analyses of the net costs and benefits of tobacco production (Barnum 1994, 361). At the Paris conference Barnum reported: "The World Bank has concluded that it does not make

[59] Barnum has also been an early advocate of age-weighting and discounting in summary measures of population health at the World Bank. See (Barnum 1987) and my earlier discussion in Chapter 2.

good economic sense to lend money for tobacco projects but it does make good sense to lend for anti-tobacco activities in health projects" (Barnum 1994, 358).

Barnum characterized sharing this message with the Paris Conference attendees as an "extraordinary opportunity", because "I know that you face opposition not only from the tobacco trade lobby but also, in some cases from your ministries of finance." He continued: "I intend to give you a message to your ministers of finance. Tobacco is too great a problem to be left to the health sector alone…controlling the consumption of tobacco is not only good for people's health but also an important policy for their countries' economic prospects" (Barnum 1994, 358).

Barnum went on to characterize tobacco consumption as an economic disaster, which produced an annual global loss of $200 billion dollars (measured in 1990 USD).[60] Each additional 1000 tons of tobacco consumption, Barnum further calculated, would cause 650 deaths and a net economic loss of $27,200,000 US dollars. Barnum's conclusion was direct and succinct: "This, then, is the simple message. Tobacco consumption provides a net economic loss, and anti-tobacco policies are a cost-effective way to save lives and benefit the economy. I hope you are convinced and will convey this message to your ministers of finance" (Barnum 1994, 361).

Barnum's message gained circulation beyond the immediate attendees of the Paris conference when it was featured in the 1994 December issue of the journal *Tobacco Control.* In addition to reprinting the talk, *Tobacco Control* devoted the lead

[60] Barnum made his calculations using mortality estimates from US Surgeon General data. But he noted that newer estimates made by Alan Lopez and Richard Peto suggested that the economic costs of tobacco may be close to double his estimates (Barnum 1994, 359 *fn* 1).

editorial to Barnum's tobacco economics and featured his talk prominently in its coverage of the Paris Conference.[61] News editor David Simpson observed:

> The economics of tobacco gained a new level of prominence at the conference…By far the most dramatic economic data... came from a senior economist at the World Bank, whose paper on the effect of tobacco on the global economy showed a net *negative* impact of $200 billion dollars. With ammunition like this, surely advocates can now begin to capture the economic high ground from the tobacco industry (Simpson 1994, 303).

Alan Lopez had provided epidemiological "ammunition" with his tobacco mortality numbers as we saw in the previous chapter. Now, World Bank research into tobacco economics, which had been motivated by DALY calculations and the findings of the GBD study and DCP projects, provided tobacco control advocates with economic ammunition as well.

A number of tobacco control advocates realized how important the economic arguments were, in addition to the epidemiological arguments in advocating for strong tobacco control provisions with multilateral organizations like the World Bank and WHO and with national level governments. In an interview with US tobacco control advocate, member of the US Public Health Service and later, US delegate to early FCTC negotiations Thomas Novotny, he remarked: "People don't care if you die [but] economic arguments became quite important" (Novotny 2013). Novotny continues: "[P]ublic health people don't have the ear of the President like a minster of finance does. And you can say, "this is the right thing to do", but unless it has an economic justification, it can be hard to get Heads of States to take action" (Novotny 2013).

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[61] Peto & Lopez's newly published global tobacco mortality figures also featured prominently (Simpson 1994, 302).

Similarly, Alan Lopez recounted to me how a World Bank colleague, Prabat Jha, also saw the importance of the economic arguments in support of tobacco control. Jha was a medical doctor, an epidemiologist who had studied under Richard Peto and a health economist who was well-versed in the intricacies of the tobacco epidemic. Lopez recounts: "[Jha] was extremely influential and clever in saying that - and I remember the conversation - "Alan, it's not just the body count here. Governments react to the hip pocket. What does it mean in terms of dollars?" And he started the work at the [World] Bank… with [Dean] Jamison as part of the Disease Control Priorities work" (Lopez 2013).

The simple message of Barnum's tobacco economics – that tobacco production created a net loss to the global economy of $200 billion USD annually – carried the "hip pocket" message and was adopted and disseminated in journal articles, conference talks and public events (World Health Organization 1999a; Chaloupka, Yurekli, and Fong 2012; "The United Nations Establishes a Focal Point on Tobacco" 1994; Reynolds and Tansey E M 2012; World Bank 1999a; Jha and Chaloupka 2000). But Barnum's economic analyses contained very high degrees of uncertainty. This spurred further analyses of tobacco economics by the World Bank and the WHO, including work by Prabhat Jha who was seconded to the WHO's Economics Advisory Service of the Cluster on Evidence, Information and Policy from his regular appointment as a Senior Health Specialist at the World Bank upon the appointment of Gro Harlem Brundtland as Director General of WHO in 1998.

The World Bank/WHO work on tobacco economics intensified throughout the late 1990s and resulted in a number of conferences and publications that attempted to

address "the analytic gap around the economics of tobacco control" (Jha and Chaloupka 2000, xiii). For example, an international conference on the economics of tobacco control was held in Cape Town, South Africa in February 1998, the published proceedings of which were the first published volume devoted exclusively to economic analyses of the tobacco epidemic (Abedian et al. 1998). The following year Prabhat Jha and US Professor of Health Economics Frank Chaloupka published another volume devoted to "key questions such as: What is the economic nature of addiction? What is the rationale for governments to intervene in the tobacco market? Which interventions are effective and which are not? Does tobacco control hard the economy? What are the costs and cost-effectiveness of tobacco-control policies?" (Jha and Chaloupka 2000, xiii).[62] In answering these questions, Jha and Chaloupka drew on the expertise of thirty-nine contributing authors and four layers of peers review including triplicate reviews of each chapter's key message by the World Bank. The book was primarily intended for technical staff within governments and international agencies, academic economists and epidemiologist and covered the following topics divided in to five Sections:
Section I: descriptive overview of global trends in smoking, the impact of tobacco on health and the costs of tobacco use; Section II: economic analysis of tobacco use focusing on tobacco addiction, the costs and benefits of tobacco use and the economic

[62] By this stage, Gro Harlem Brundtland had been appointment Director General of WHO and enthusiastically embraced tobacco control as a WHO priority – as I discuss later in this chapter. Thus, in a Foreword to Jha and Chaloupka's volume co-signed by Brundland and World Bank President James Wolfensohn, they could proclaim: "Tobacco is rapidly becoming one of the single biggest causes of death worldwide, and by 203 is expected [to] kill about 10 million people per year…For both the World Health Organization (WHO) and the World Bank, increased action to reduce this burden is apriority, as part of their missions to improve health and reduce poverty" (Jha and Chaloupka 2000, Foreword).

rationale for government intervention in the tobacco market; Section III: the effectiveness of policies intended to reduce demand for tobacco products; Section IV: issues affecting the *supply* of tobacco; Section V: discussion of the design of effective policies and strategic priorities for international organizations in responding to the global tobacco epidemic (Jha and Chaloupka 2000).

The key messages of Jha and Chaloupka's (2000) technical volume were also published in a non-technical report by the World Bank entitled *Curbing the Epidemic: Governments and the Economics of Tobacco Control* (World Bank 1999). Its message was clear: "Tobacco is among the greatest causes of preventable and premature deaths in human history. Yet comparatively simple and cost-effective policies that can reduce its devastating impact are already available. For governments intent on improving health within the framework of sound economic policies, action to control tobacco represents an unusually attractive choice" (World Bank 1999, X). The report made two more specific recommendations. First, that the aims of *national governments* deciding to take strong action against the tobacco epidemic should be directed towards deterring children from smoking, protecting nonsmokers from tobacco smoke exposure and providing all smokers with information about the health effects of tobacco. Such aims could be enacted through tobacco taxation, tobacco warning labels and tobacco advertising bans and by widening access to nicotine replacement therapies. Second, *international agencies* should give tobacco control policies due prominence and should "address tobacco control issues that cross borders, including working with the WHO's proposed Framework Convention on Tobacco Control" (World Bank 1999, 11).

Crucially, the publication of the *Curbing the Epidemic Report* coincided with

the opening negotiations for the FCTC treaty and, according to all of my interview respondents, played a "crucial role" is advancing the FCTC treaty.[63] However, the path to the opening of FCTC treaty negotiations was far from smooth. The idea for a FCTC treaty had, first, to overcome significant resistance at WHO.

Initial Resistance at WHO 1994 - 1998

Following the Paris conference, the idea for a legally binding approach to international tobacco control was formally proposed to WHO in two ways: First, in early 1995 Judith Mackay was asked by Director General Nakajima to conduct a formal review of the Programme on Substance Abuse, which now included the tobacco unit. Mackay used the opportunity to strongly recommend an FCTC treaty as a core component of the Programme's strategic direction (Mackay 2003, 551). Second, Canadian delegate to the WHA, Jean Lariviere, drafted a resolution that was tabled at WHO executive board meeting in January.[64] The text, requesting the Director General to investigate the feasibility of an "international instrument on tobacco control" was adopted by the WHA in May that year (WHA 48.11). Although Nakijima had commissioned Allyn Taylor and Ruth Roemer to prepare a feasibility study, resistance to the idea of a treaty remained strong at WHO.

In an oral history interview, Allyn Taylor recounted to me how the initial outline of the feasibility study was heavily criticized. The outline proposed a legally binding

[63] I discuss the influence of various economic approaches to the tobacco threat on the various articles that were incorporated into the FCTC treaty in Chapter 5.
[64] Lariviere benefited from unofficial assistance on the resolution from Neil Collishaw who, due to his employment by the WHO Tobacco unit, could not offer official help (Collishaw 2013).

treaty on tobacco control to be developed under the auspices of the WHO. A senior WHO official criticized the proposal as "ambitious to a fault", emphasizing that "it is important to be realistic" (Roemer et al. 2005, 937). According to Neil Collishaw, this resistance came, primarily from the WHO legal department. Upon learning of Taylor and Roemer's proposal for a tobacco treaty, the legal department called Collishaw to a meeting and said: "you have to go kill this" (Collishaw 2013). The legal department's reticence stemmed from the lack of precedent, lack of expertise in international law and treaty management and, as always with WHO, a lack of resources (Collishaw 2013). It was believed that WHO should develop a non-binding code of conduct, like the Breastmilk Code, a non-binding international instrument that could be adopted by WHA as a resolution, or that a legally binding treaty should be developed by the UN (Roemer et al. 2005, 937).

In trying to convince the legal department of the necessity of a WHO tobacco treaty, Collishaw emphasized the dissimilarity between tobacco and other disease-targets of WHO work:

> Like everybody else in WHO [the legal department] have to beg for resources and money and they felt that they developed a good modus operandi for getting health problems solved *without* treaties. And they'd point to examples, look what we did for smallpox and look what we did for river blindness. And I said well, good, but you know there are not well-heeled sales persons standing on every street corner all around the world with shirt pocket dispensers of oncocherciasis and smallpox. But that's what we've got with tobacco. We have these big companies that are selling this stuff all around the world they aren't going to voluntarily stop doing it. Just because you want them to, it's not like river blindness, it's...this is corporate disease. It's quite a different order than what WHO is used to dealing with. Yet we have the responsibility for doing it. So we have authority under the constitution of the world health assembly. And I pointed right to the section [Article 19 on the] right of convention.

> So the World Health Assembly says it's time to do it, well it's time to do it and time for legal services to get behind it. (Collishaw 2013).

Collishaw saw tobacco as a different kind of health threat to what WHO usually addressed – *corporate disease*. Because they were different, Collishaw saw using Article 19 of the WHO constitution as both justified and necessary.

Despite pressure to recommend a non-binding instrument, Roemer and Taylor persisted in their recommendation for a legally binding tobacco treaty to be developed by the WHO in their final report, delivered in August 1995. The report, however, was then suppressed by WHO. Only a three page summary of the document was tabled at the WHO executive board meeting in January 1996 (EB97/INF,DOC.4) and Taylor and Roemer were forbidden from further distributing the full manuscript (Taylor Interview). Nevertheless, the executive board adopted the resolution based on the report summary (EB97.R8) and a formal resolution calling for a WHO framework convention was adopted by the WHA in May 1996 (WHA49.16). The resolution urged Member States to implement comprehensive tobacco control strategies (independent of the Framework Convention), further urged Member States to contribute extra-budgetary resources toward global tobacco control, and requested the Director General to "initiate the development of a framework convention in accordance with Article 19 of the WHO Constitution" (WHA49.16).

However, without dedicated budgetary funding or strong institutional support, the newly approved WHO tobacco treaty became just one of many competing priorities at WHO and languished over the following years. The idea was still advanced in *other* settings: at the 10th World Conference on Tobacco on Health held in Beijing, China in

1997, for example, Ruth Roemer, Allyn Taylor and Neil Collishaw each presented papers on the FCTC treaty under the *International and Government Options* session heading (there were six papers in total)(Lu et al. 1997). Barnum's economic arguments for tobacco control were also advanced at the conference in World Bank-sponsored sessions on Tobacco Economics (Lu et al. 1997, Novotny 2013). However, the FCTC treaty did not receive further attention at the WHO until Gro Harlem Brundtland was appointed Director General in 1998.

WHO TURNS 50: WHO REFORM, A RENEWED STRATEGY FOR HEALTH-FOR-ALL, THE GLOBALIZATION OF PUBLIC HEALTH AND INTERNATIONAL PUBLIC HEALTH LAW

At least, the FCTC did not receive *direct* attention at the WHO. Instead, WHO's treaty-making powers, conferred by Article 19, came under consideration as part of a wide-ranging review of WHO's policies, mission and direction in the lead-up to its 50th Anniversary. Throughout the mid-1990s, the WHO was engaged in a process of reform in response to 1) the rising prominence of the World Bank in world health affairs, 2) the declining legitimacy of the WHO during Nakajima's tenure 3) a breakdown in the relationship between the World Bank and World Health Organization due, in part, to a falling out between Nakajima and incoming World Bank President James Wolfensohn (Lopez 2013) and 4) rapid changes in the context of world health loosely referred to as "Global Change" (Godlee 1994; Horton 2002; Yamey 2002b; Brown, Cueto, and Fee 2006; J. A. de Beyer, Preker, and Feachem 2000; Fidler 2001).

In January 1992, the WHO Executive Board appointed a working group to report on the "WHO Response to Global Change" (World Health Organization 1993).[65] The report noted that the end of the Cold War, market liberalization, economic stagnation and increasing debt had resulted in countries becoming "increasingly preoccupied with health sector financing" (WHO 1993,1). This can be read as a thinly-veiled critique of the World Bank's involvement in world health affairs, especially through the DCP Project, the *World Development Report 1993: Investing in Health* and, to a lesser extent, the GBD Study. In other words, the report drew critical attention to the changing discursive opportunity structure of world health that was emerging with the transition from international to global health during the 1990s.

Nevertheless, the WHO Response to Global Change report insisted on the continued centrality of the WHO and suggested ways to reestablish its leadership within the changed historical context. While the report acknowledged the importance of other United Nations agencies and international bodies in matters of health, it noted that their involvement "should not displace WHO's leadership" (WHO 1993, 2).[66] The report reflected on the mission of the WHO, describing its objective, as enshrined in the constitution, as helping to ensure the attainment by all peoples of the highest possible level of health. "To achieve this", the report continued:

> WHO must have a clear sense of mission and direction. "Health for All" provides a valid and timeless aspirational goal. The association of

[65] It is to this working group that some historians of world health attribute the emergence of a focus on "global", as opposed to "international" health at the WHO (Brown, Cueto, and Fee 2006).

[66] The turf-war implicit here can also be seen as response to the Children's Vaccine Initiative and later, the creation of UNAIDs – both of which addressed world health issues outside of WHO leadership.

> "Health for All" with the Year 2000 has been a motivational concept for the past fifteen years. However, it can now be seen as limiting, sometimes misunderstood and proposing a time frame which is not universally attainable. More realistic operational targets and indicators are needed to guide future international health work by WHO and Member States (WHO 1993, 3).

In order to clarify the organization's mission and direction and define operational targets and indicators, a number of working groups were convened and activities undertaken under the general rubric of WHO reform (Clift 2013,37). For example, the WHO spent three years developing a revised policy of *Health-for-all policy for the twenty-first century* through a broad-based consultative process that included each of the WHO's regional offices, academic consultants and members of civil society organizations (World Health Organization 1997a). A related working group reviewed the organization's constitution and found, regarding Article 19, that "although the authority to adopt international conventions had never been exercised, it [is] a useful power to keep in reserve and should not be deleted from the Constitution" (World Health Organization 1997b).

The general orientation of the *Health-for-all Policy for the twenty-first century* was towards developing "a holistic *global health* policy" and translating the goal of Health-for-all into operational terms (Antezana, Chollat-Traquet, and Yach 1998, 3 emphasis added). It positioned health as "an outcome and a goal of sustainable development" and emphasized the need to build sustainable health systems (Antezana, Chollat-Traquet and Yach 1998, 3-4). It also suggested the prioritization of disease prevention and control interventions according to "epidemiological measures of the burden of disease now *and in the future*, effectiveness of interventions to improve

health, and capacity (including human, institutional and financial aspects) to implement policies" (Antezana, Chollat-Traquet and Yac 1998, 5 emphasis added). In other words, although the renewed Health-for-all strategy criticized the changing context of world health and the World Bank's approach to health sector financing, it adopted similar ideas about prioritizing health interventions according to disease burden and the availability of cost effective interventions that had been advocated in *WRD 1993: Investing in Health,* the GBD Study and DCP Project.

Importantly, the revised strategy also emphasized "the need to apply national and international instruments that will advance the "right to health" (Antezana et al. 1998, 3). In adopting the revised *Health-for-all policy for the twenty-first century* the WHO used language that would support the eventual FCTC: "as global Interdependence increases, so will the need for global ethical, and scientific norms, standards, and commitments, including some that are legally binding" (World Health Organization 1997c, 14. See also Antezana, Chollat-Traquet, and Yach 1998; Yach 1996; Yach 2014).

The various reform efforts were coordinated, in large part, by the Policy Action Coordinating Team of the Division of Development of Policy, Programme and Evaluation at the WHO, of which South African tobacco control advocate, Derek Yach, had recently been appointed Chief (Derek Yach 1996; Antezana, Chollat-Traquet, and Yach 1998). Derek Yach had encountered the idea for an FCTC treaty in late 1993 at the All-Africa Conference on Tobacco or Health and had become and early, staunch advocate for legally binding approach to international tobacco control (Chapman et al. 1994). In his new role as Chief of the Policy Action Team, Yach also advocated for the

use of international law in advancing global health more generally. In an issue of WHO's quarterly publication *Health Statistics Quarterly* devoted to the *Health-for-all for the 21st Century,* Yach co-authored a chapter on the role of international health law. Drawing on the work of Allyn Taylor and Ruth Roemer, he argued that health law had been underutilized: "With globalization and privatization of the economy, public health law is vital to protect and promote health. Persuasive and mandatory global instruments have become more important as global interdependence has increased" (L'hirondel and Yach 1998, 79).

The impact of globalization on world health was further analyzed by Yach in collaboration with Canadian medical doctor, MPH, and fellow WHO colleague Douglas Bettcher. Bettcher had recently graduated from the London School of Economics with a Graduate Diploma in World Politics and PhD in International Relations and was hired by Yach as part of the Policy Action Team to contribute to its work on globalization and health (Reynolds and Tansey 2012). In an influential two part article, entitled "The Globalization of Public Health" published in the *American Journal of Public Health*, Yach and Bettcher advocated for the *Health-for-all Policy in the twenty first century*, emphasized the role of international law in advancing *global* health, and promoted the WHO as the appropriate coordinating body for international health law efforts (see Figure 4.1) (Yach and Bettcher 1998; Yach and Bettcher 1998). Importantly, the article included the proposed Framework Tobacco Convention as an example of WHO efforts at international law making, even though no formal steps had been taken to initiate negotiations on the treaty.

TABLE 1—Examples of International Public Health Law

International Instrument	Purpose	Obligation of Signatory States	Executing Body	State of Development
International health regulations	International control of communicable diseases	Binding international instrument	WHO	Adopted by WHA in 1948
Codex codes of practice and guidelines	Standards and recommendations for countries on food safety	Standards binding on acceptance by countries; recommendations nonbinding	FAO/WHO Codex Alimentarius Commission	Codex program established in 1962
International code on marketing of breast milk substitutes	Promotion of breast-feeding and regulation of marketing of breast milk substitutes	Nonbinding recommendations	WHO	Adopted by the WHA in 1981
Framework tobacco convention	Facilitation of national and international tobacco control strategies	Binding multilateral convention on ratification	WHO	Proposed in Resolution WHA49.17 and now in the planning stages

Note. WHO = World Health Organization; WHA = World Health Assembly; FAO = Food and Agriculture Organization.

Figure 4.1: Examples of International Public Health Law
Reproduced from (Yach and Bettcher 1998b)

Although the FCTC was mentioned only briefly in the articles, the issue of tobacco control nicely illustrated what Yach and Bettcher meant by the globalization of public health issues. Bettcher recounts how tobacco control fit with the broader theme of the globalization of public health as follows:

> In the mid-1990s, there was a review of our [WHO's] constitution and some countries thought that Article 19 could be dropped; it had never been used. It seemed to be rather dormant. Did WHO need to develop treaties? There was also a sense at WHO that it had been a scientific organization since its inception and that it didn't get into politics…. What was also missing in 1996 was the sense that tobacco control is a transnational problem… like differential taxes, advertising across borders, differences between countries, smuggling, products being dumped without the appropriate warning labels. This became described as part of WHO dealing with the globalization of public health (Reynolds and Tansey 2012, 11-12).

Tobacco provided particularly rich illustration of the impact of globalization on world health.

Neil Collishaw also uses the case of tobacco advertising to highlight the *trans*national dimension of tobacco during the 1990s:

> At that time Canada had banned tobacco advertising nationally, but had an exception for [television] broadcasts received from international sources, like formula one races. At that time they were all sponsored by tobacco companies, all the cars [were], right? Well, Australia also had a ban on national advertising, but they'd also succumbed to the pressure from the tobacco industry and had an exception for events staged in Australia that would be broadcast internationally, like the Australian Grand Prix. So I could sit in my living room [in Canada] and watch the Australian Grand Prix on my TV with all these tobacco sponsored cars racing around the track and big tobacco billboards all around the track… and both Canada and Australia had bans on advertising… Clearly there was international work to be done. And in the beginning people didn't get that, the whole international dimension here (Collishaw 2013).

Yach and Bettcher's work on the globalization of public health sought to highlight the need for international coordination in tobacco regulation in order to avoid the kind of situations that Collishaw's anecdote illustrates.

Although Yach and Bettcher acknowledged the potential threats of globalization, they argued that these could be turned into opportunities to improve global health, especially through using the tools of international law, and saw the role of WHO as the lead coordinating body for regulatory approaches to governing global health. On the whole, Yach and Bettcher's articles presented an optimistic picture of the future of global health and the leadership role of WHO within it. But other articles in the same issue of the Journal offered a different take. An editorial by Vicente Navarro criticized Yach and Bettcher's article for ignoring the political context in which the globalization of health was occurring (Navarro 1998). Another editorial pointed out that while "In the past, WHO has been looked to as a leader in the struggle to meet world health needs… [m]ore recently, WHO's leadership role has passed to the far wealthier and more influential World Bank, and the WHO mission has been dispersed among other UN agencies" (Silver 1998, 728). Yach and Bettcher's rosy view of the future role

of the WHO amidst the global changes affecting world health was far from universally shared.

In the very same issue of the American Journal of Public Health, the lead editorial announced what would become an important event in the WHO's adaptation to the new global health context: the appointment of Gro Harlem Brundtland as the new Director General of WHO. Brundtland faced a formidable task, the editorial predicted:

> After several uninspiring years of stolid and layered bureaucracy, we can hope for fresh thought, imagination, competence, and commitment. Leading the organization back into its historic position of international leadership – one that only some of her predecessors have been able to sustain – will be a formidable task… The contributions of Yach and Bettcher and George Silver's editorial, all in this issue, make clear the magnitude of this task" (Susser 1998, 727).

Brundtland took up her Directorship General of the WHO at a low-point in the organization's history and amidst wide-reaching reform efforts aimed at adaptation to the changed discursive opportunity structure of world health during the 1990s. Brundtland came to the job with a clear vision of the future of WHO – a WHO that was the "moral voice and technical leader" in world health. And her vision very quickly came to include tobacco control as a key strategy in reasserting both the moral voice and technical leadership of WHO.

BRUNDTLAND AS DIRECTOR GENERAL OF WHO: TOBACCO CONTROL AS A WHO PRIORITY

Histories of the FCTC treaty produced by those who were active in the process universally acknowledge the critical role that Gro Harlem Brundtland played in bringing about the tobacco control treaty (Mackay 2003; Ruth Roemer, Taylor, and

Lariviere 2005; Derek Yach 2014; Shibuya et al. 2003; World Health Organization 2009). But in these histories, the *problematization* of the tobacco epidemic is taken as self-evident and, as a result, no reasons are given for *why* Brundtland adopted tobacco control as a priority when taking office as Director General of WHO. Furthermore, while these accounts rightly celebrate Brundtland as a champion of global tobacco control and the FCTC treaty, they pay little attention to the wide variety of constraints and opportunities that made the FCTC possible beyond Brundtland's individual contributions. In this section, I argue that tobacco control in general, and the FCTC treaty in particular, were central to the project of WHO reform in which Brundtland, among others, sought to reposition the organization as the lead *coordinating* body in the field of world health by pursing health policies guided by the criteria of disease burden, cost efficacy and health equity. The FCTC thus became important to the role of the WHO in the transition from international to global health at the turn of the 21st century.

A Thankless Task: Reforming the WHO in the Late 1990s

When Gro Harlem Brundtland was appointed Director General of WHO, the organization had reached a low-point in its history. The Economist magazine characterized the situation of the organization and its incumbent leader in the following way:

> If the job had been advertised, the prospectus would have read something like this:
>
> The client is a 50-year-old multinational concern that was once the global leader in its sector. Recently, however, it has lost its direction. Though the market it serves is still growing rapidly, it is also changing in ways that threaten the relevance of the client's traditional strengths. The

> client has also suffered over the past decade from weak leadership, and rival concerns have been competing for its territory. Nevertheless its brand is still strong, and while it may never regain its previous monopoly, it can probably be repositioned as *primus inter pares* in the sector. Its rivals need its expertise and it should be able to carve out a comfortable niche if it is prepared to co-operate with them. This will require a significant change of attitude on the part of some employees and that, together with the antiquated management structure and an ill-advised growth in the number of senior managers over the past few years, may indicate the need for some corporate downsizing.
> The client, of course, is the World Health Organization (WHO). And the thankless task of reforming it has gone to Gro Harlem Brundtland, former prime minister of Norway, chairman of a seminal environmental report and fully paid-up member of the International Great and Good ("Repositioning the WHO" 1998, 1).

The article continued: "Dr Nakajima's reign saw the WHO's exclusive franchise on world health eroded" before observing that the most serious threat to the WHO's "monopoly" was the involvement of the World Bank in world health affairs. In comparison with the WHO's budget of $900 million, which had remained unchanged in real terms for the previous 14 years, the World Bank portfolio of health lending during the late 1990s had grown to $10 billion – and was continuing to grow at a rate of $1 billion to $2 billon a year (1998, 4-5).

Unlike her predecessors, though, who often perceived the World Bank as a threat, to Brundtland the growing involvement of the World Bank provided an opportunity. In January 1998, while still one of five nominees for the position of Director General of the WHO, Brundtland gave an interview to Fiona Godlee, editor of the *British Medical Journal.* In response to a question about the current domination of world health by the World Bank, Brundtland characterized the involvement of the bank, and its considerable financial resources as an asset: "The Bank's interest in international health is a great asset. Each organisation should respond to needs by doing what it does

best. But we can coordinate our efforts even better based on the traditional division of work, where the WHO provides expertise" (Godlee 1998). Brundtland continued that if elected, she "would be looking forward to strengthening the WHO's relations with the World Bank" (Godlee 1998).

A few short weeks later, on January 1998, Gro Harlem Brundtland was appointed the new Director General of the WHO. Brundtland came to the position with a clear vision for reforming the organization and with considerable experience in the fields of medicine, public health, national and international politics and development. She trained as a medical doctor in her native Norway before completing a Masters degree at the Harvard School of Public Health. Upon returning to Norway she entered the public service working as a state physician for a number of years before becoming the Norwegian Minister for Environmental Affairs in 1974. She then became Norway's first female Prime Minister in 1981, serving two subsequent terms for the Social Democratic party from 1986-1989 and 1990-1996. Between her first and second terms, at the Request of the UN Secretary-Gerneral, she chaired the World Commission of the Environment and Development, better known as the "Brundtland Commission", which introduced the term "sustainable development". The resulting publication, *Our Common Future*, motivated the 1992 United Nations Conference on Environment and Development, also known as the Rio Summit or Earth Summit, at which the UN Framework Convention on Climate Change was adopted (Brundtland 2005).

Early in her preparations to take up leadership of the WHO, Brundtland met with President of the World Bank, Jim Wolfensohn, and they both expressed commitment to collaborate and cooperate ("Repositioning the WHO" 1998). Crucially,

Brundtland appointed Dean Jamison, lead author of the World Bank's *World Development Report 1993: Investing in Health* as head of the Health and Development arm of her transition team and adopted many of the ideas associated with the *investment* logic of the report: prioritizing health interventions according to the global burden of disease measured in DALYs and the availability of cost-effective interventions. Other World Bank consultants were brought to the WHO to serve in Brundtland's new "cluster" on Evidence and Information for Policy, including Christopher Murray, co-author of the GBD study (Lopez 2013) and Prabhat Jha, co-editor of the *Curbing the Epidemic* report (Jha and Chaloupka 2000; World Bank 1999a). Bruntland also expressed commitment to continued WHO reform and to "Bringing health to the top of the political agenda" (McGregor 1998, 343).

Bruntland's vision for the WHO was elaborated further in her address to the World Health Assembly in May 1998 as incumbent Director General. Although she would not officially take up her post until July, the work of determining priorities and articulating the path forward was already well under way. To the assembled delegates, she spoke:

> …[A]s we approach a new century…WHO must cope with complex processes of transition.
> The **transition from one century to another** sees changes which will be faster and more dramatic from an economic, social and health perspective…

In addition to the historical transition into the twenty-first century, Brundtland also flagged a concern with the coming health transition – an issue that featured prominently in the World Bank's investigations into health systems planning and health sector financing. Brundtland then tied these together with the theme she had developed in her

global environmental work: development.

> We have another transition, the transition **from communicable to the noncommunicable diseases.** They cannot be seen as competing tasks. They are complementary. We need to fight both. The burden of disease is the burden of unfulfilled human development…

Finally, she drew on the same themes articulated by Yach and Bettcher in their vision of the future role of the WHO in responding to the globalization of health:

> Globalization is opening up new opportunities for growth and progress. But the benefits are not adequately distributed. Globalization has also brought new and critical threats to health and the environment…
> World trade, environmental change, lifestyles and culture; in all these fields we must be able to analyse the driving forces and speak out for health and development.
> The world is in transition. So accordingly **WHO must be in transition**" (Brundtland 1998, emphases in original)

Brundtland saw the organization as having failed, so far, to adapt to the world in transition but, like Yach and Bettcher, she focused on the opportunities, not just the problems, presented by the globalization of health.

Brundtland went on define her vision of the key mission of WHO amidst global change: to be the "moral voice and the technical leader in improving the health of the people of the world" (Brundtland 1998.) To do so, she argued the organization would have to unify its work on the ground, build stronger partnerships with member states, other UN agencies, international financial institutions, the NGO community, the private sector and elevate the status of health on the development agenda. All the while, the WHO would underpin its work with solid facts. "I wish to focus on the technical support and normative work of the World Health Organization and at the same time bring the Organization more firmly into the political arena" (Brundtland 1998).

Brundtland's vision for "politicizing" the WHO had a peculiar meaning, though. She did not mean, simply, that WHO would cease shying away from controversy or politically sensitive health topics like population control. Nor would it mean engaging in overtly ideological battles about selective primary health care. Instead, Brundtland sought to politicize the WHO by using scientific evidence to elevate global health concerns from matters of *health* to matters of *finance*:

> For WHO to be the leading advocate for health we need to know the relevant facts, not only have the conviction that health is essential. Health is not only a moral obligation and a basic human right. Health is pure and sound economics.
>
> In July I will establish as separate function on Evidence for Health Policy. We need to get our statistics right and keep them right through research and constant update… We need to know the burden of disease and how health policy can contribute to change. We need to know the cost-effectiveness of interventions and we need to define our priorities accordingly.
>
> To be the leading advocate for health we need to take that evidence to decision-makers around the world. We will report on the news of fact. And the fact is that healthy people help build healthy economies" (Brundtland 1998).

Crucially, those facts and that evidence would come from the same sources that served as background to *WDR 1993:Investing in Health*, namely the GBD Study and DCP Project.

Using scientific estimates of the burden of disease and the cost-effectiveness of health interventions, Brundtland sought to position health as "sound economics" and as central to the development agenda in order to make health a priority for the "whole of government". Health Ministers, she assumed, would need little persuasion. But, WHO – through their member state delegates – "should remind Presidents, Prime Ministers and

Finance Ministers that they are truly health ministers themselves, key to the well-being of their people. Health investments are sound investments for poverty reduction and economic growth" (Brundtland 1998, 5).

Having articulated her general vision for the WHO, Brundtland then moved on to discuss two projects that she wished to start work on from the moment she took office on July 21st. Adopting the same broad categorizations of disease causes as the DCP project, she first addressed the "unfinished agenda" of communicable diseases with an immediate focus on malaria and a longer view to tuberculosis, HIV/AIDS and tropical disease.[67] But the second, stemmed from the "emerging threat" of noncommunicable disease: tobacco. Brundtland explained the focus as follows:

> We need to address a major cause of premature death which is dramatically increasing – killing four million people this year – and – if we let it go on without action – 10 million people in 2030 – half of them dying in middle age – not old age. The major focus of the epidemic is now shifting to the developing countries.
>
> I refer to tobacco. I am a doctor. I believe in science and evidence. Let me state here today. **Tobacco is a killer."** (Brundtland 1998, 6 emphasis in original).

Drawing on the mortality projections of the GBD study, Brundtland also adopted the recommendation of tobacco control as a particularly cost effective health priority.

In her realignment of the organizational structure of WHO, Brundtland created the Tobacco Free Initiative, a cabinet-level program devoted to tobacco and appointed

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[67] In her speech to the WHA, Brundtland followed the categorizations of the DCP Project and classified HIV/AIDS as part of the "unfinished agenda". But in a speech given to WHO staff two months later, she singled out HIV/AIDs for special mention. With WHO as incoming chair of the Committee of Co-sponsoring Organizations of UNAIDs, Brundtland expressed her commitment to supporting the work of UNAIDs. She also acknowledged that GBD forecasts had underestimated to impact of HIV/AIDs worldwide (Gro Harlem Brundtland 1998c).

Derek Yach – South African tobacco control advocate, early FCTC champion, WHO reform visionary and optimist about the role of the WHO in the new era of global health – as its head. With Brundtland as head of the WHO and Yach at the helm of the TFI, negotiations for the FCTC quickly got underway.

In oral history interviews with key actors in the FCTC process, I asked many of my respondents *why* Brundtland prioritized tobacco control at the WHO. To some of these life-long anti-tobacco campaigners, this seemed a dumb question: tobacco was an *obvious* priority. Nevertheless, most offered at least some speculation on Bruntland's motivations. One respondent drew on Brundtland's experience in medicine and public health. He described Bruntdland's appointment as DG as "very critical" to the eventual passage of the FCTC: "She took it on as a personal issue," he reported. When I asked him why, he replied "She's a physician. And for the same reasons that it appealed to me [i.e. seeing first-hand the downstream health consequences of tobacco use and wanting to combat them upstream]. I think she saw the benefit of it and heard the rationale, economic and otherwise, and the global burden of disease and said this is [terrible], we've got to do something about this" (Novotny 2013).

Allyn Taylor, the initial author of the idea for the FCTC, explained to me that Brundtland was a different kind of Director General than what WHO had traditionally known. Taylor pointed out that while Brundtland was a Doctor, she also had a strong background in international affairs and international law making and wasn't intimidated by the overtly political dimensions of treaty negotiations (Taylor 2013).[68]

Judith Mackay, who was a member of Brundtland's transition team recalls

[68] It is a requirement of the WHO that its director general hold medical qualifications.

proposing the idea of tobacco control as a WHO priority to Dr Brundtland. Along with Neil Collishaw and Sir Richard Peto, Mackay was part of the team who suggested tobacco control:

> [When Brundtland was appointed Director Genera] malaria was one of her cabinet projects and she wanted another. And several of us had to go and make a presentation as to why the different topics should be prioritized.
>
> And so I spoke on tobacco… I show pictures, which I do, rather than text [in my presentations]. And because I'm a campaigner, she responded to that. She's really obviously sort of quite a health campaigner at heart. And she made tobacco a cabinet project, and [as a result]… the whole idea of this convention went onto the fast track (Mackay 2010).

While Mackay emphasized the visual impact of tobacco related disease, Neil Collishaw emphasized the *numbers.* In response to my asking *why* Brundtland became interested in tobacco control, he responded:

> Because of all the work that we'd been doing, just putting the facts out there. That there [were] 3 million deaths and that it [was] going grow to...I think we were estimating 10 million deaths by 2020. It will just keep growing after that unless the world takes this problem seriously. So that, she understood that message (Collishaw 2013).

These numbers, of course, came from Collishaw's own work, but also from the work of Alan Lopez as part of the GBD study.

Lopez also indicated the numbers produced by the GBD study as key to Brundtland elevation of tobacco control as a WHO priority. When Brundtland became Director General, Lopez told me, she immediately "brought [Christopher] Murray in…and then Burden of Disease went from being banned at WHO basically to being a key tenet of the WHO policies" (Lopez Interview). Lopez continues:

> [Brundtland] was very, very interested in evidence. She's a very tough Norwegian, Scandinavian, independent woman, and she said: "I don't

> want to know about ideology. Show me the evidence." And she engaged in evidence discussions… she wanted evidence and she thought Burden of Disease offered a platform for generating evidence, not about whether we *think* this is important but what's the evidence, what's the comparative importance about this versus that and how do I know. The Burden of Disease was the way (Lopez 2013).

The global burden of disease constituted the evidence base for tobacco control as an evidence-based priority, and alongside the World Bank's tobacco economics, for the FCTC as an evidence-based treaty.

The global burden of disease did provide compelling evidence that tobacco was a growing health concern and that it would continue to grown at an alarming pace into the future. But the GBD characterization of the tobacco threat also appealed to Brundtland's concern with repositioning the WHO as the "moral voice" of global health by focusing in issues of health equity. This was because the future burden of the tobacco epidemic was projected to fall disproportionately on the global South. In her own recollection on why she chose tobacco control as a priority in her 2005 autobiography, Brundland recalled:

> The fact is that four million people die each year from tobacco related diseases. Tobacco is ranked second on the list of the world's killers, responsible for 6 percent of the causes of fatal disease. But the future predictions were what really caught my attention: if people continue smoking the way they do today, by 2020 tobacco will be the leading cause of death and disability, killing more than ten million people each year. Some 70 percent of the tobacco deaths will be in the developing world, which cannot afford this added burden (Brundtland 2005).

Tobacco provided the opportunity for the WHO exercise both its moral voice and technical leadership by prioritizing a health concern that was a leading cause of disease, and was anticipated to disproportionately affect the developing world in the coming decades if immediate action was not undertaken. Immediate action, in the form of an

international treaty of the same kind that eventuated from Brundtland's own environmental commission had been approved by the WHO, but without funding or institutional support, had languished over the previous two years. International regulation, of the sort proposed for tobacco control, had also been identified as key to repositioning the WHO amidst the changing context of world health and as central to the *Health-for-all* strategy for the twenty-first century (Yach 1996; Yach and Bettcher 1998; Yach and Bettcher 1998b). Brundtland quickly arranged institutional support and dedicated funding by making tobacco control a cabinet-level project. Official negotiations for the FCTC began shortly thereafter.

Brundtland saw the potential for a tobacco treaty to re-assert the WHO's centrality within the field of global health by enacting Article 19 of the organization's constitution. According to Douglas Bettcher, this took great courage, among other traits. His reflection on Brundland's role in the creation of the FCTC is worth quoting at length:

> Dr Brundtland is a very courageous person. If you embark on using Article 19 of the WHO Constitution for the first time, you can't be a timid DG. She's not like that. She's been known all the way through her political career as having courage and foresight. She played a critical part in this undoing of WHO's conservative, very narrow model of public health; this idea that you can't have legal instruments and the WHO is afraid of messy political negotiations and all that stuff.
>
> She had been, as you remember, the commissioner of the Sustainable Development Commission for the UN Secretary-General in the 1980s. She knew all about complex negotiations. She was the Norwegian prime minister three times, so she was much attuned with how health links with foreign affairs, how it links with different sectors, how it links with social determinants and how negotiations can be a messy mud fight. But she was committed that WHO had to do it, had to get in there and had to stand up for the truth and what is right.

> Also, she realized you can't do that with the small budget that WHO had for tobacco control. WHO said: "Of course, tobacco control is a great priority, it's a total priority, it's the largest preventable cause of death." But poor Neil [Collishaw] only had one staff member with him, and there was one regional adviser in Europe working on tobacco control almost full-time; for other regions there were only staff working part-time for tobacco control. So Dr Brundtland said: "We have to have a platform for this. We need a high-level cabinet project in WHO to advance tobacco control, and this project is very important. The tobacco-control group must be accountable to me. It's got to be accountable to my office, to my cabinet. I'm going to watch the negotiation of the treaty closely. I'm going to make sure this is a success. It's got to have money, and we've got to do it now, and we have to get moving, and we have to develop the mechanics for the negotiation to proceed." WHO had never had a notion of how to develop a treaty negotiation-making apparatus, so she sent us out in the field to the other treaty secretariats to get the precedents and get moving with the precedents to develop the mechanics to do this.
>
> She also established a new budgeting system. Before, we had a kind of system for planning our budget that was like a patchwork quilt. It was a lot of little things, and we never really knew what the priorities were. She developed a notion of budget prioritization in the WHO, and tobacco became one of the top priorities. The prioritization was done on the basis of disease burden, death and the potential to make a public health impact, which also put tobacco up towards the top. We were then placed in a situation where we could do this (Reynolds and Tansey 2012, 35-36).

Brundtland was, by all accounts, critical in elevating tobacco control as a WHO priority and bringing about the FCTC treaty. In turn, the FCTC was central to Brundtland's vision of WHO reform and to reasserting the leadership role of WHO within the newly altered health landscape in the transition from international to global health.

Reflecting on Brundtland's tenure after her announcement that she would not seek a second term, Gavin Yamey of the British Medical Journal observed:

> Brundtland managed the seemingly impossible. She took WHO out of the doldrums and gave it back some international credibility. On the global stage, the organization has a newfound confidence, negotiating an international treaty on tobacco control and brokering partnerships with a wide spectrum of society. It would now be inconceivable to hold an

> important meeting on global health without WHO's involvement (Yamey 2002a, 1358).

At least according to this observer Brundtland had succeeded in reestablishing the WHO as the central actor in global health.

The FCTC Treaty Comes Into Force

In the early morning hours of February 28th 2003, during the last few months of Brundtland's time as Director General, the Intergovernmental Negotiating Body (INB) of FCTC agreed on a final text of the treaty. The INB had met over six sessions, from October 2000 to February 2003 in order to forge a consensus on the structure, content and precise wording of the FCTC treaty (World Health Organization 2009).[69] The final text was then forwarded to the WHA for consideration during its annual meeting in May. To great acclaim, the text of the treaty was unanimously adopted by the WHA on 23rd May 2003. Reflecting on the achievement, Brundtland observed: "The convention we have agreed on is a real milestone in the history of global public health" (Kapp 2003, 839).

Following the adoption of the treaty text by the WHA, the Framework Convention was opened for signature from 16-22 June 2003 at WHO headquarters in Geneva, then at the United Nations headquarters in New York City from June 30th 2003 to 29th June 2004. According to the WHO's official "History of the WHO Framework Convention on Tobacco Control", signing the treaty was a political act that indicated the agreement of a Member State to ratify it and its commitment not to oppose

[69] The work of the INB had been preceded by two meetings of the FCTC Working Group in October 1999 and March 2000 (World Health Organization 2009).

implementation of the provisions by other States" (2009: 26). On the first day, 28 Member States and the European Union ceremonially signed the treaty. "Children accompanied each of the official representatives from Member States that signed the treaty, signifying the stewardship role of these countries in ensuring a healthy, tobacco-free world for future generations" (World Health Organization 2009, 26). By the time the treaty was closed for signature in June 2004, it had acquired 168 signatories.

Then began the process of treaty ratification. According to international law, a treaty requires the ratification of 40 Member State signatories before it can enter into force. Ratification procedures vary from country to country. In Australia, for example, matters of international law are decided by the Federal (Commonwealth) Parliament, whereas matters of tobacco control had historically been decided across both Federal and State/Territory Parliaments. The Federal Parliament thus made the decision to ratify the FCTC in October 2004 with the dual effect of bringing tobacco control regulation more firmly under the powers of the Federal Government and tying domestic tobacco control more closely to international developments driven by the FCTC (Scollo and Winstanley 2012).[70] By contrast, the process of treaty ratification in the United States is more complex and is complicated by relative power of State Governments relative to the Federal Government. As a result, the United States, though a signatory to the FCTC, did not forward the treaty to Congress for ratification.[71] The treaty entered into force on February 27, 2005 – 90 days after it had been ratified, acceded to, accepted or approved

[70] Australia's ratification of the FCTC also had the effect of bringing tobacco control regulation more firmly under the powers of the Federal Government and tying domestic tobacco control more closely to international developments driven by the FCTC (Scollo and Winstanley 2012).
[71] For a fascinating account of the treaty negotiating process by one of the Head US delegates see (Bernard 2012).

by a total of 40 member States. The FCTC has subsequently gained 180 Parties to the Convention – making it one of the most widely and rapidly adopted treaties in United Nations history.

Director General Gro Harlem Brundtland was no doubt a key actor in the WHO's adoption of tobacco control as a global health priority, its pursuit of a legally binding FCTC treaty and in reestablishing the WHO's international credibility during the late 1990s. But she neither accomplished these feats alone nor in a historical, social or political vacuum. Instead, as I have tried to highlight, Brundtland's accomplishments as Director General of WHO, including inaugurating the negotiations for the FCTC, depended on the confluence of a range of contextual factors: the creation of a the DALY metric, the GBD study and the DCP Project, the crisis and subsequent period of reform at WHO, a growing interest the economics of tobacco at the World Bank, the cooperation between the World Bank and WHO and the professionalization of the movement for international tobacco control. While various histories of the FCTC highlight and celebrate the individual role played by Brundtland, I have tried to show that the election of Gro Harlem Brundtland as Director General of the WHO – much like the creation of the DALY metric I discussed in Chapter 2 – was a necessary condition for the creation of the FCTC. But neither, on its own, was a sufficient cause of the treaty. Instead, the creation of the epidemiological and economic evidence-base problematizing a current and *future* tobacco epidemic and the political mobilization for international tobacco control that culminated in the eventual passage of the FCTC are best conceptualizes as having been *coproduced* amidst the changing historical context of the field of world health at the turn of the 21st century.

NEGOTIATING THE TOBACCO TREATY

Many detailed accounts of the negotiations of the FCTC treaty have been produced by scholars of political science, global governance, international law, civil society and social movements (Rosskam and Kickbusch 2011; Mamudu and Glantz 2009; Derek Yach 2014; Assunta and Chapman 2006; Shibuya et al. 2003). I do not recount the treaty-negotiation process here. Instead, I wish to highlight a few select elements that helped speed the passage of the treaty and which pertain to the argument being developed throughout this dissertation. These include positioning the WHO as the lead coordinating body among a range of partner organizations, the creation of an active *trans*national NGO movement, public hearings in advance of treaty negotiations, the deployment of various rhetorical strategies throughout the negotiating process and, crucially, the publication and dissemination of the World Bank's *Curbing the Epidemic* (1999) report during the negotiations.

Working in Partnership

Work towards the FCTC began in earnest very quickly after Brundtland's appointment as Director Genreal. Immediately upon taking office, she created the Tobacco Free Initiative as a Cabinet Level Project and provided considerable resources in support of work towards the treaty. She applied to the United Nations Foundation/United Nations Fund for International Partnerships, which provided grants of over $7 million USD for Global Health Leadership and Tobacco Control Projects (United Nations General Assembly 1998). Much of this funding went to support the

work of the Tobacco Free Initiative (TFI). Brundtland also moved to build partnerships across other UN agencies, multilateral organization, international financial institutions, the private sector and civil society in line with her vision of WHO reform. She petitioned UN Secretary General Kofi Annan to move the UN focal point for tobacco from its then-current location under the UN Conference on Trade and Development and bring it under WHO's stewardship. In mid-1999, the Secretary General's UN Task Force on Tobacco Control was established, with WHO as Chair (United Nations 1999, 2000).[72] The WHO then coordinated work on the social and economic issues of tobacco control among:

- The United Nations Department of Economic and Social Affairs (DESA)
- The United Nations Office of Human Resources and Management and the Medical Service, both within the Department of Management of UN Secretariat
- the Food and Agriculture Organization (FAO)
- the International Civil Aviation Organzation (ICAO)
- the International Labour Organization (ILO)
- the International Monetary Fund (IMF)
- the Joint United Nations Programme on HIV/AIDS
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- The World Bank
- the United Nations Children's Fund (UNICEF)
- the United Nations Development Programme (UNDP) and United Nations Development Group (UNDG)
- the United Nations Environmental Programme (UNEP)
- the United Nations Office for Drug Control and Crime Prevention (UNDCP)
- the United Nations Population Fund (UNFPA) and
- the World Intellectual Property Organization (WIPO) (United Nations 1999).

The Task Force facilitated close collaboration between these agencies, so that "there would always be the capacity to respond" to concerns about trade, job losses, revenue

[72] Part of Brundtland's motivation for requesting a transfer of the UN Focal Point was the revelation, through recently released tobacco industry documents, that the former UN contact person was largely sympathetic to the tobacco industry (Reynolds and Tansey 2010, 60).

shortfalls, labor and agricultural concerns and other issues associated with tobacco control during FCTC treaty negotiations (Reynolds and Tansey 2010, 61-62).

Importantly, at the first meeting of the task force in September 1999, the various agencies were briefed by Brundtland and Yach on four things relating to the global tobacco epidemic: public health trends, tobacco economics, the activities of the tobacco industry and the proposed FCTC. In doing so, they drew extensively on data from the GBD study and from the World Bank's report *Curbing the Epidemic* (United Nations 1999).

As the Interagency Task Force began their work, so too did the WHO FCTC Working Group. Meeting in October 1999 and March 2000, the working group was convened in order to draft a proposed text of the treaty (World Health Organization 1999b). Two of its very first agenda items included technical briefings on the *epidemiology* of the tobacco epidemic, which drew on the results of the GBD study and *economics* of tobacco control, which summarized and reported on the World Bank's *Curbing the Epidemic* Report (World Health Organization 1999c. See also WHO Documents A/FCTC/WG1/3 and A/FCTC/WG1/2). From the very start, then, the FCTC working group was equipped with a dual evidence base: the epidemiological evidence of the GBD study and the economic evidence of the *Curbing the Epidemic* report. One established, this evidence base was frequently referenced throughout the treaty negotiating process and in subsequent meetings of the Conference of the Parties of the FCTC treaty. Table 4.1 lists the key meetings in the FCTC process.

Table 4.1: Relevant meetings in the FCTC negotiating process

Group/Meeting	Date	Location
1st Meeting of the FCTC Working Group	25-29 October 1999	Geneva, Switzerland
2nd Meeting of the FCTC Working Group	27-29 March 2000	Geneva, Switzerland
1st Session of the Intergovernmental Negotiating Body (INB)	16-21 October 2000	Geneva, Switzerland
2nd Session of the INB	30 April – 5 May 2001	Geneva, Switzerland
3rd Session of the INB	22-28 November 2001	Geneva, Switzerland
4th Session of the INB	18-23 November 2002	Geneva, Switzerland
5th Session of the INB	14-25 October 2002	Geneva, Switzerland
6th Session of the INB	17 – 28 February 2003	Geneva, Switzerland
1st Session of the Open-ended Intergovernmental Working Group (IGWG)[73]	21-25 June 2004	Geneva, Switzerland
2nd Session of the IGWG	31 January – 4 February 2005	Geneva, Switzerland
1st Conference of the Parties	6 – 17 February 2006	Geneva, Switzerland
2nd Conference of the Parties	30 June – 6 July 2007	Bangkok, Thailand
3rd Conference of the Parties	17 - 22 November 2008	Durban, South Africa
4th Conference of the Parties	15 – 20 November 2009	Punte Del Este, Uruguay
5th Conference of the Parties	12 – 17 November 2012	Seoul, Republic of Korea
6th Conference of the Parties	13 – 18 October 2014	Moscow, Russian Federation

Creating a Transnational NGO Movement

[73] The Open-Ended Intergovernmental Working Group was convened between the acceptance of the treaty by WHA and its ratification by 40 member state parties and in advance of the establishment of the Conference of the Parties after the FCTC entered into force.

In addition to partnering with other UN agencies and multilateral organizations, upon electing to take on tobacco control as a WHO priority Brundtland also moved to build capacity among the international tobacco control movement. In October 1998, Brundtland, Yach and Bettcher met with the handful of NGOs that were aware of the FCTC and created what would come to be known as the Framework Convention Alliance, an transnational network of NGOs, to support the treaty negotiation process. Initially, Brundtland provided funds to the British-based Action on Smoking and Health (ASH) to identify how best to involve civil society in the FCTC negotiations. ASH coordinated among similar NGOs worldwide and created an online repository for networking and collaboration called Globalink (http://www.ncdlinks.org/globalink/). The international tobacco control movement was, at this point, able to align itself with the WHO as a key ally and establish itself now as a *trans*national, or global, public health movement (Kay 2005; Kay 2011. See also Fourcade 2006).

Two additional UN Foundation grants – *Tobacco kills – don't be duped* and *Channeling the outrage* — helped provide funding to further galvanize the global tobacco control movement. These grants sought explicitly to reignite the moral outrage frame that had animated much of the early international tobacco control movement and channel it into widespread support for the FCTC using extensive media advocacy and health information campaigns. It was able to do so, in part, because of the formerly secret tobacco industry documents that had been released in 1998 as part of the Master Settlement Agreement in the United States of America. Through these documents, it was very quickly revealed that the industry had been spreading misinformation about

the addictive nature of tobacco products for years. The *Tobacco Kills – don't be duped* grant drew attention to these informational issues:

> Freedom of information issues, especially the public's right to know about the health consequences of tobacco use on the one hand, and the tobacco industry's practices on the other, will be emphasised. The Tobacco Free Media initiative will seek to house tobacco control issues where they belong – at the top end of national and international political agendas and at the centre of public health debates in countries. In doing so, the initiative will seek a new language, a new idiom and a new sense of purpose and direction for tobacco control…The political, social and economic commitment and will to circumscribe if not altogether prevent the tobacco industry's domination of the "health information marketplace" and its devastating effects on global health depends greatly on the effective development of a new health communication platform. This platform must be based on evidence. It must be ethical and credible. It must be able to package accurate, relevant, and impartial information in ways which ignites people's righteous anger at being lied to, manipulated, and exploited by tobacco interests and spark the creation of a popular tobacco free world global movement. Tobacco, especially the industry's marketing and promotion practices affords a strong case for informed social outrage (United Nations Foundation 1998).

Brundtland saw that the tobacco industry documents from the Master Settlement Agreement would be a "critical tool" for advancing the moral outrage frame of the tobacco threat.[74]

Brundtland initiated an investigation into the influence of the tobacco industry in the UN system, especially into "efforts to prevent implementation of healthy public policy and efforts to reduce finding of tobacco control within UN organization" (Zeltner et al. 2000, 1). She appointed a Committee of Experts on Tobacco Industry Documents in October 1999, which conducted an extensive investigation into the industry

[74] The Tobacco industry documents have proved a valuable resource for a number of actors and for a number of purposes. They constitute an archive that has prompted important historical scholarship (A. Brandt 2007; Proctor 2011) and a treasure trove of proof of tobacco industry manipulation and interference in tobacco control efforts (Griffith 2014; Zeltner et al. 2000; Benson 2012; S. Glantz, Mamudu, and Hammond 2008; Derek Yach and Bettcher 2000).

documents. The following August the committee produced a 250 page report entitled "Tobacco Industry Strategies to Undermine Tobacco Control Activities at the World Health Organization" (Zeltner et al 2000). According to the press release accompanying the report:

> The Committee found that the tobacco industry regarded the World Health Organization as one of their leading enemies, and that the industry had a planned strategy to "contain, neutralise, reorient" WHO's tobacco control initiatives. Tobacco industry documents show that they carried out their plan by:
> - staging events to divert attention from the public health issues raised by tobacco use;
> - attempting to reduce budgets for the scientific and policy activities carried out by WHO;
> - pitting other UN agencies against WHO;
> - seeking to convince developing countries that WHO's tobacco control program was a "First World" agenda carried out at the expense of the developing world;
> - distorting the results of important scientific studies on tobacco;
> - discrediting WHO as an institution (World Health Organization 2000a).

The report created a very potent sense the tobacco industry was an omnipresent threat to transnational tobacco control efforts. As one participant in the FCTC negotiations told me:

> [T]he disclosure of the tobacco industry's internal documents, which came out during the US trials… showed the tobacco industry was a habitual liar and was indulging in the obfuscation of facts. [As a result of the industry documents] … all the statements that were being made about the tobacco industry by the anti-tobacco activists, but which were being ignored by the media and by the public as, you know, that these were anti-smoking fanatics of fascists or whatever, suddenly they were all proved to be true. And people said here is an evil industry. …[This] transformed the international tobacco control scene. (Interview 2010).

The sense that the tobacco industry was a constant, if invisible threat, continued to animate the transnational tobacco control movement at the time I was conducting field

work during 2009-2010. At the 13th World Conference on Tobacco or Health held in Mumbai, India in 2009 – almost every session I attended that mentioned the tobacco industry professed the belief "that they are probably here in this room, now" (Field Notes, 3/8-12/2009). Similarly, when I travelled to the 4th Conference of the Parties of the FCTC treaty in November 2010, I was almost denied access to the event because I was suspected to be an industry representative. The Rules of Procedure for the Conference of the Parties states that proceedings are open to the public. Upon travelling to Uruguay to observe the meeting, I learned that the number of public admission badges is limited to thirty because it is assumed that only members of the tobacco industry would want to observe the proceedings. The queue to secure one of the thirty public badges began to form before daybreak for each day of the negotiations. Luckily, I was able to secure a press badge and gained access to the Conference Proceedings as a student reporter, instead.

Public Hearings

The Zeltner report was delivered in August 2000, just as the negotiations for the treaty were about to begin. The FCTC working group had agreed on a provisional text of the treaty in early 2000, the WHA had accepted the provisional text in May, and the Intergovernmental Negotiating Body (INB) was to begin negotiating in October. In advance of the first INB negotiating session, the WHO held public hearings into the proposed FCTC – the first in the Organization's history and the first time any UN agency had solicited views from all parties interested in a proposed convention (World Health Organization 2000b). Funding for the public hearings was provided by the UN

Foundation grant *Channeling the Outrage.* Administered by the WHO's Tobacco Free Initiative, as part of its NGO capacity building initiatives, the project aimed "to build non governmental organization (NGO) capacity in tobacco control, particularly in developing countries" (World Health Organization 2000c). At the public hearings, over 500 submissions were made and representatives of 144 organizations and institutions gave verbal testimony before the hearing's panel. Among the participants were representatives of almost all major tobacco multinationals and state tobacco companies, tobacco farming groups and a greatly expanded range of anti-tobacco public health agencies, women's groups, community organizations and academics (World Health Organization 2000d).

The hearings gave the WHO an opportunity to draw a clear line in the sand, between those helping to advance the cause of global tobacco control and those who would hinder an effective FCTC. In Brundtland's official response to the hearings, she reported:

> All groups with a commitment to public health expressed extreme concern about the impact of tobacco use on the current and future health of populations, especially in developing countries. They urge rapid and decisive action. In contrast, most tobacco companies concentrated on what they believe to be the boundaries of "reasonable" and "appropriate" actions. Some questioned the role of WHO and the FCTC process in promoting action and making progress to reduce the public health impact of tobacco. Further, several tobacco companies continued to deny that passive smoking constitutes a threat to health (World Health Organization 2000e).

Drawing on the theme of tobacco industry denialism that had emerged from the industry documents and from the Zeltner report, Brundtland cast the tobacco industry as continuing its long history of deceit and denial into the current FCTC negotiations.

Brundtland continued:

> In general, the tobacco companies have indicated support for policies and measures that are known to have a very limited impact on youth and adult consumption of tobacco. They appear to be against the interventions that WHO, the World Bank and public health experts have identified as having a measurable and sustained impact on tobacco use.
> These are a combination of
> • increased excise taxes,
> • bans on tobacco advertising, sponsorship and marketing,
> • controls on smoking in public places,
> • expanded access to effective means of quitting,
> • tough counter-advertising and
> • tight controls on smuggling.
> I hope that Member States will focus on these interventions as they deliberate about the measures to be included both in the FCTC and in their national laws and policies (World Health Organization 2000e).

In this way, Brundtland positioned the tobacco industry as a wolf in sheep's clothing – proposing ineffective interventions in the hopes of undermining effective tobacco control regulation. She expressed her hope that member states would remained focused on what WHO recommended as evidence based tobacco control strategies.

Brundtland also drew on the work carried out by other UN agencies on the social and economic effects of tobacco regulation coordinated by WHO in its role as Chair of the UN Interagency Task Force:

> In much of their testimony, companies that are part of the tobacco industry focus on political, financial and human rights issues. They re-state well known predictions that international action to reduce tobacco use will lead to sudden and massive job losses, people driven further into poverty and threats to the sovereignty of nations. As we heard from other groups, these predictions do lead to genuine concern among decision makers: however, careful research has also shown that in most cases the predictions have no evidence base. It thus seems likely that the companies are trying to confuse the negotiating process that will be taken forward by delegates from WHO's 191 Member States. They seek

> to do this just before the FCTC Intergovernmental Negotiating Body which starts Monday the 16th of October (World Health Organization 2000e).

Finally she clearly drew a clear line between the public health community and the tobacco industry: "Our analyses suggest that there is a stark contrast in positions of WHO and most Member States on the one hand, and those of the tobacco companies. We in WHO urge the immediate implementation of the measures that are *known* to have a sustained impact on reducing tobacco use. We would wish that this can be undertaken without interference by tobacco companies (World Health Organization 2000e).

The tobacco industry became a clearly identified adversary that the transnational tobacco movement united against. As Ruth Roemer put it, "You know this is a very nice fight to have because the enemy is very clear. The tobacco companies have been absolutely vicious in concealing what they knew…and about pushing tobacco marketing on children and in the developing world (World Health Organization 2009, 3). Similarly, when I interviewed a Delegate to the FCTC negotiations from a country of the global south, he reported to me that anti-tobacco industry sentiment helped consolidate action in support of the FCTC among low and middle-income countries:

> [T]he feeling that we were working together against the tobacco industry, which was a clearly identified adversary, also helped to consolidate our positions and strengthen the coalition… when some of the developed countries like the US or Japan took [pro-industry] positions, there was a sense of disappointment or sometimes even outrage that our interests were not being looked at and tobacco industries interests were being given greater precedence.
>
> So all the more, we put our backs up and said no, you need to [fix this]. So in a sense I think the fact that we saw ourselves as victims of the tobacco epidemic and as being targeted by the tobacco industry, it gave us the sense of moral purpose, which coupled with hard core economics and looking at the health stats also enabled us to take well argued

> positions, both within the countries and among our regions. [As a result]… we had fundamentally a belief that tobacco was becoming an increasing threat for most developing countries… The governments realized that tobacco was becoming a health threat, an economic threat, and that we needed protection against tobacco, both at the national level and at the global level (Interview 2010).

Scholars of social movements have highlighted effect of a clearly defined antagonist on processes of movement mobilization (Benford and Hunt 1992, 39). This was the case during the early years of the movement for international tobacco control, which identified the tobacco industry as the primary antagonist of its moral outrage frame. Now, although the global tobacco epidemic had been characterized primarily in the seemingly objective language of epidemiological and economic forecasts and it was this characterization that gained traction with the powerful multilateral organization such as WHO and the World Bank, the moral outrage frame was being invoked once more in order to reignite a global tobacco control movement. The WHO and World Bank could, in this way, target their actions towards a depersonalized and *economized* impending epidemic, while antitobacco activists/advocates could simultaneously mobilize around a reignited moral outrage frame directed towards a deceitful and harmful tobacco industry.[75] The public hearings that Brundland organized helped to solidify the transnational tobacco control movement and reignited the moral outrage frame in advance of the FCTC negotiations.

Symbolic and rhetorical strategies

[75] Interestingly, though, the actual articles that eventually came to constitute the FCTC treaty do not seek to intervene upon the tobacco industry but rather, seek to govern the global tobacco epidemic through *demand reduction* strategies, i.e. by altering the costs and benefits of smoking in such a way as to discourage individuals from starting or continuing to smoke.

Another rhetorical strategy that helped to unify the global tobacco control movement, especially in the global South, was the unequal protection afforded by tobacco control regulations across different national contexts. For example, tobacco companies would comply with national laws regarding health labels on their products within those jurisdictions, but for products sold in other territories, their packages wouldn't include warning labels. Judith Mackay elaborates:

> There were double standards. For example, [tobacco companies] might put on a health warning in the US, but then not put one on…in an Asian country. I spoke quite a lot about that, and what the tobacco industry would say is, we abide by the laws of the country, if they require a health warning, we'll put on a health warning. And that's what they do.
>
> But I counter argue that by saying that it was, just ethically wrong, that they were putting a health warning …on in one place and not in another. So that's unequal treatment, that exploits. [The] almost, not exactly colonial, but certainly economically colonial aspect of the transnational companies, was a message that really found resonance in the developing countries in the early days (Mackay 2010).

Neocolonial arguments, similar to those invoked by the early international tobacco control movements helped to ignite a similar moral outrage, as described by Mackay, and helped mobilize support for a strong FCTC.

The moral outrage frame was adopted by the nascent Framework Convention Alliance (FCA), which was founded and continued to receive financial support from the WHO with funds from its UN foundation grants to support the FCTC process. As a coalition of various national and transnational NGOs, the FCA did not directly participate in the FCTC process, as participation was limited to member state delegations. Nevertheless, the FCA adopted a number of strategies and tactics from other treaty-making processes to influence delegations and persuade member state

delegates to support a strong treaty (Mamudu and Glantz 2009). For example, during each of the sessions of the Intergovernmental Negotiating Body (INB), the FCA published a daily Alliance Bulletin reporting on the previous day's proceedings. Highlights of the publication included the "Orchid" and "Dirty Ashtray" awards for tobacco control leadership and bad behavior respectively (see Figure 4.2).

Figure 4.2: Orchid and Dirty Ashtray award
Image reproduced from ("Orchid and Dirty Ashtray Award" 2000)

The FCA's *Alliance Bulletin* also contained a daily update of an important rhetorical device that was modeled on global HIV/AIDs advocacy: the death clock. The death clock had been unveiled in Geneva on October 25th 1999 to coincide with the first meeting of the FCTC Working Group. A press release for the Campaign for Tobacco Free Kids, which helped organize the clock, recounted:

> The "Death Clock," measuring more than 6 feet in length, will track the minute-to-minute death toll from tobacco-caused illness around the

> globe. Organizers intend to bring the ticking clock to every negotiating session to emphasize the continuing human toll of tobacco use. "This clock will be a concrete reminder to governments of how much is at stake in these negotiations," said Bill Novelli, President of the Washington, D.C.-based Campaign for Tobacco Free Kids. "Every week, more than 50,000 people die from tobacco-related illness worldwide. We can and must put a stop to this (Campaign for Tobacco-Free Kids 1999).

The death clock continued to tick throughout the treaty negotiations, through the FCTC COP meetings and has a permanent presence on the FCT's webpage (see Figure 4.3). Calibrated according to figures from the GBD study, the clock increases by one tobacco-related death every five or so seconds. From its unveiling in 1999 until April 2015 it has registered over 77,600,000 tobacco related deaths. Interestingly, the death toll numbers can be read in two different ways. On one reading, the death toll could be read as wasted human life and seen to align with the moral outrage framing of the tobacco problem. But on the death toll could equally be read in terms of wasted human capital and, in this way, resonated also with the economic characterization of the global tobacco epidemic.

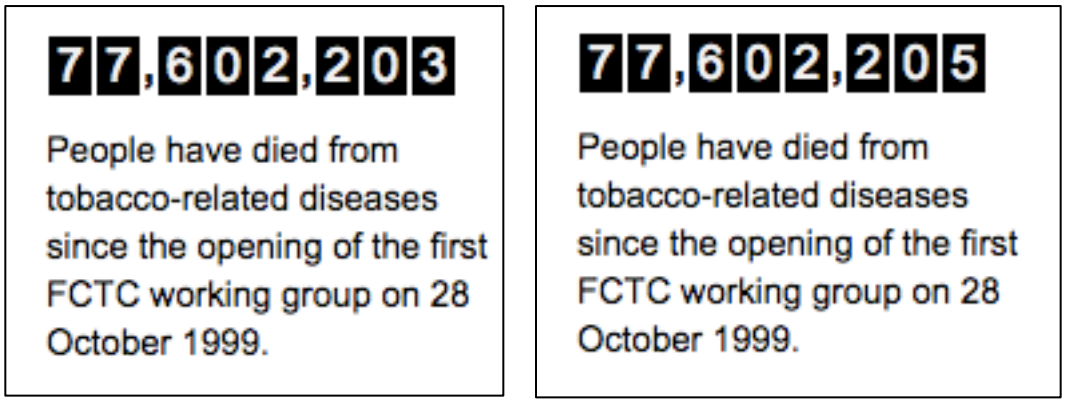

Figure 4.3: Successive images of the "Death Clock"
Images from fctc.org. Accessed April 24, 2015

The epidemiological characterization of the tobacco epidemic also served in a somewhat unexpected way to unify regional voting blocs during the FCTC negotiations, especially within the WHO African region. As early as 1993 at the First All Africa Tobacco Control Conference (the conference at which Ruth Roemer initially presented the idea of a tobacco treaty to Derek Yach), tobacco control advocates worried that the health consequences of tobacco "held little weight with governments of countries that often already had massive public health problems" (Chapman, Yach, Saloojee and Simpson 1993, 189). Negative trade balances, shrinking markets and deforestation were proposed as arguments with more immediate appeal and, it was thought, more persuasive power for mobilizing tobacco control action. However, the epidemiological forecasts provided by the GBD study and the cost-effectiveness arguments produced by the DCP project proved sufficiently compelling for the African region to unite in its support for strong global tobacco control. According to one South African tobacco control advocate, there was a sense that this was one epidemic that Africa could avoid. The *future* burden of disease motivated an anticipatory ethic among the African countries, which then formed a voting block in support of a strong FCTC treaty (Field Notes 3/12/2009, 11/10/2011).

The final aspect of the FCTC treaty negotiations that I wish to highlight is the role played by the World Bank's *Curbing the Epidemic* report. As I mentioned, the report was published to coincide with the opening of the first session of the FCTC working group. As a result, the epidemiology and economics of the global tobacco epidemic served as a dual evidence base from the very start of the treaty negotiations. In addition, the Bank printed and distributed over 17,000 copies of its *Curbing the*

Epidemic report in over 10 different languages, ran a website dedicated to tobacco economics and hosted over 60 seminars and workshops around the world on tobacco taxation during the negotiating period 1999-2003 (Reubi 2013, 217). In each of these forums the Bank promoted its key messages (see Figure 4.4). According to one of my interviewees who participated in the FCTC process, the report was instrumental to the negotiations because of the presumed objectivity of economic arguments:

> [T]hat report was *highly* valuable to the negotiation… basically the [World] Bank came out and said, listen, you know... we are economists we have no *moral* judgment about tobacco. But our studies say that apart from a handful of countries...Malawi and Zimbabwe… tobacco is a net loss. And that was a very powerful message to the finance ministry. So we had the health advocates [saying] you shouldn't smoke – its bad for health. Right? But there was a lot of… assumptions that tobacco was actually quite positive to national economies… But the fact that the Bank came out with the position that it was a net economic loss for most countries, was at least in my opinion *crucial* in negotiation (Interview 2013).

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The moral outrage framing helped mobilize strong support for the FCTC among the global tobacco control movement while the epidemiological and economic characterizations of the global tobacco epidemic provided persuasive evidence in support of the treaty to ministries of health *and* ministries of finance. As a result, both the moral outrage framing and the epidemiological/economic characterization of the global tobacco epidemic served to motivate support for a strong FCTC.

***Curbing the Epidemic* Key message:**

Tobacco kills. Smoking already causes one in 10 adults deaths worldwide. Until recently, deaths and disease caused by smoking mainly affected rich nations but the impact is now rapidly shifting to the developing world. By 2030, tobacco will kill 10 million people each year, the biggest single cause of death worldwide. Seventy percent of those deaths will be in low-and middle-income countries, where tobacco use is growing fast, and many people do not know the risks.

Few people dispute that smoking is damaging health on a global scale. However, many governments have been wary of acting to control smoking through higher taxes, comprehensive bans on advertising and promotion, or restrictions on smoking in public places due to concerns that interventions such as these could have harmful economic consequences.

"*Curbing the Epidemic*" addresses important economic and social issues that confront policymakers when dealing with tobacco. The report:

- estimates the gains in health and lives that tobacco control could achieve
- assesses the conseuences of tobacco control for economies and individuals
- demonstrates that **the economic fears that have deterred policymakers from taking action are largely unfounded**.

Countries that adopt **measures to reduce tobacco use can prevent millions of premature deaths and much disability**, especially among the poor. The most effective (and cost-effective) measures are:

- **taxes** on cigarettes and other tobacco products
- **non-price measures**, especially comprehensive bans on advertising and promotion of tobacco, information, including porminent health warning labels, and smoking restrictions
- **cessation** treatments and programs: nicotine replacement therapy, counseling and support, anti-depressants etc that can help smokers to quit.

These measures generally will not harm economies. In almost all countries, there would be no net loss of jobs. Evidence shows that higher tobaco taxes generate **increases** in revenues. Even where smuggling becomes a serious problem, tax increases bring greater revenues and reduce smoking.

Governments, international agencies, NGOs and citizens can all help to reduce the devastating impact on global health from smoking. **Moderate action could win substantial health gains in the 21st century**.

The report is the outcome of strong collaboration amond governments, non governmental organizations (NGOs), researchers and Universities, agencies within the United Nations system, including the World Health Organiztion, UNICEF, the Food and Agriculture Organization and the International Monetary Fund, and the office on Smoking and Health at the U.S. Centers for Disease Control and Prevention.

Figure 4.4: Key messages of the *Curbing the Epidemic* Report.
From (World Bank 1999b)

CONCLUSION

In this chapter I showed how amidst the newly altered global health landscape of the 1990s, the results of the GBD study and DCP Project as well as the World Bank's economic analyzes of tobacco epidemic were seen as compelling evidence in support of tobacco control at the WHO. This epidemiological/economic characterization of the tobacco epidemic found resonance with important constituencies – with the World Bank, of course, and with representatives of national ministries of finance of WHO member-state delegates – and with Dr Gro Harlem Brundtland upon her appointment as Director General of the WHO. In her role as Director General, Brundtland was tasked with reforming the WHO and with reasserting the centrality of the languishing organization within a newly crowded field of global health actors. Brundtland effectively mobilized the epidemiological/economic characterization of the tobacco epidemic and gained support for the FCTC treaty among a range of partner organizations. In turn, Gro Harlem Brundtland was able to partially realize her vision for the WHO as "the moral voice and the technical leader in improving the health of the people of the world" (1998 Speech to General Assembly). The epidemiology of the tobacco threat served as an *epistemic hinge* between technical and moral aspects of the tobacco epidemic because a disproportionate share of the future burden of tobacco related death and disease was forecast to fall on countries of the global South. Brundtland was no doubt central to the successful passage of the FCTC, but her accomplishments were made neither alone nor in a historical and political vacuum. Instead, as I try to highlight here, Brundtland mobilized a particular set of constraints

and opportunities that emerged from the changing context of world health during the 1990s.

During the treaty-making process a number of developments helped speed its passage: public hearings in advance of treaty negotiations, the creation of an active transnational NGO movement and reigniting of the moral outrage frame, the deployment of various rhetorical strategies and, crucially, the publication and dissemination of the World Bank's *Curbing the Epidemic* (1999) report during the negotiations. In the next chapter I move from the global problematization of tobacco control and the accomplishment of the FCTC, that is from how the science and policy of global tobacco control were *coproduced*, to the content of the treaty itself. I examine in greater depth particular articles of the treaty and how they purport to govern the health of the global population in the new era of global health.

CHAPTER 5:

KNOWING THE RISKS AND BEARING THE COSTS OF SMOKING: DEMAND REDUCTION STRATEGIES FOR THE NEOLIBERAL SUBJECT

"The WHO Framework Convention on Tobacco Control (WHO FCTC) is the first treaty negotiated under the auspices of the World Health Organization. The WHO FCTC is an evidence-based treaty that reaffirms the right of all people to the highest standard of health. The WHO FCTC represents a paradigm shift in developing a regulatory strategy to address addictive substances; in contrast to previous drug control treaties, the WHO FCTC asserts the importance of ***demand reduction strategies*** *as well as supply issues"* (World Health Organization 2003b, vi).

The World Health Organization's Framework Convention on Tobacco Control (WHO FCTC) was claimed to usher in a new era of global health not just because it was an unprecedented legally binding world health, nor because it helped reestablish the WHO's role in the field of global health, nor even because of the unique level of international cooperation it inspired. The WHO FCTC was claimed also to represent a "paradigm shift" in the control of diseases caused by harmful and addictive substances because it emphasized *demand* reduction strategies. That is to say, instead of regulating tobacco *products*, the FCTC treaty primarily regulates the behaviors of tobacco-using *people*. In attempting to intervene upon the risky yet still perfectly legal decision to consume tobacco products, then, the FCTC attempts to govern global health through prescribing health-maximizing, risk-minimizing behaviors – i.e. by prescribing the conduct of conduct of the global population. And it attempts to do so by correcting what the World Bank identified as a market failure in the decision to smoke, i.e. that smokers

neither full know their risks nor bear the costs of their individual consumer choice (1999a). The two central demand reduction strategies of the FCTC are designed to correct for this market failure through education (increasing smokers" knowledge about the risks of smoking) and taxes (increasing the "costs" involved in deciding to smoke). In this chapter I argue that both of these demand reduction strategies are based on a model of a cost-benefit calculating neoliberal *homo oeconomicus* – the same figuration of human action that I argued undergirds the DALY metric discussed in Chapter 2. Education campaigns and taxation strategies both seek to alter the costs and benefits of present *and future* smoking in such a way that the decision not to smoke is the only rational course of action. Furthermore, I argue that they do so by bringing the *future* costs of smoking into present cost-benefit calculations in an attempt to effect the self-optimizing behavior of neoliberal *homo oeconomicus.* I begin by outlining the demand reduction articles of the FCTC before turning to examine in greater detail taxation and education strategies designed to combat the global tobacco epidemic.

DEMAND REDUCTION STRATEGIES OF THE FCTC

The FCTC treaty in its final iteration consists of thirty-eight articles, the majority of which deal with technical and definitional issues including the precise use of terms, the relationship of the FCTC to other international legal instruments, and the settlement of treaty-related disputes. But Parts III and IV of the treaty, encompassing eleven articles in total, deal with specific tobacco control measures designed to curb the negative health effects of the global tobacco epidemic. Part III (Articles 6 - 14) covers demand reduction strategies including taxation, protections from tobacco smoke

exposure, product regulations and disclosures, cessation advice and, public awareness and education measures. The remaining three articles (Articles 15 – 17) constitute Part IV of the treaty and cover supply-side regulations. These are limited to preventing the illegal trade of tobacco products (i.e. smuggling), restricting sales of tobacco products to minors and a vaguely worded commitment to "promote, as appropriate, economically viable alternatives for tobacco workers, growers and, as the case may be, individual sellers" (WHO 2003, 16). Throughout my fieldwork, I repeatedly observed members of the international tobacco control community profess a commitment to and solidarity with tobacco farmers, especially those in low and middle-income countries, who were anticipated suffer lost livelihood as a result of the FCTC (Field Notes 3/8-12/2009, 11/15-20/2010). However, this aspect of the treaty has received very little attention from academics, campaigners, or funding bodies. Instead, academic research has focused on the tobacco industry's use of tobacco farming groups as a front for anti-regulatory lobbying efforts (Mair and Kierans 2007; Chapman 2007; Russell, Wainwright, and Mamudu 2014; S. Glantz, Mamudu, and Hammond 2008; Glantz and Balbach 2000).

The objective of the treaty, specified in Article 2 is to "protect present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke by providing a framework for tobacco control measures to be implemented by the Parties at the national, regional and international level" (WHO 2003, 5). To achieve this objective the treaty lays out a set of guiding principles in Article 4. The first guiding principle emphasizes that "[e]very person should be informed of the health consequences,

addictive nature and mortal threat posed by tobacco consumption and exposure to tobacco smoke" (WHO 2003, 5). Additional guiding principles point to the necessity of strong political commitment, international cooperation, comprehensive multisectoral collaboration, and the participation of civil society in implementing the treaty's objectives. Article 5 of the treaty details the Parties' general obligations, including the requirement that each Party develop a comprehensive national tobacco control strategy, establish a national focal point for tobacco, protect the national tobacco program from tobacco industry interference and raise financial resources for the effective implementation of the FCTC.

Part II of the treaty, "Measures relating to the reduction of demand for tobacco", begins with Article 6 (WHO 2003, 7). Although the first guiding principle of the treaty focuses on the necessity of health information about the harms of tobacco, the first demand reduction measure focuses on price and tax strategies to reduce the demand for tobacco. Article 6 states that "The Parties recognize that price and tax measures are an effective and important means of reducing tobacco consumption by various segments of the population, in particular young persons" (WHO 2003, 7). Member states that have become Parties to the FCTC treaty have thus, by ratifying Article 6 of the convention, indirectly contributed to the global consensus that taxation strategies are an effective public health measure to control the global tobacco epidemic. However, even though tobacco taxation had become widely acknowledged as an "evidence based best practice" in tobacco control by the mid-2000s, it was not always viewed as such. In fact, even as late as the mid-1990s, tobacco taxation was seen primarily as a revenue raising strategy to which many tobacco control advocates objected because it was seen as a

highly regressive. I examine the changing science of tobacco taxation below.

Having positioned tobacco taxation as a first principle of demand reduction strategies, the FCTC treaty then goes on to cover further non-price measures to curtail global tobacco consumption. These include protection from exposure to tobacco smoke (Article 8), regulation of tobacco contents and emissions (Article 9) and product disclosures (Article 10) – each to be enacted through national law. Articles 11 and 12 address "Packaging and labelling of tobacco products" and "Education, communication, training and public awareness" respectively (WHO 2003, 9-11). Together, they form the core of the risk communication strategies designed to correct for market failure in the decision to smoke due to imperfect information about the health consequences of smoking.

Article 13 covers "Tobacco advertising, promotion and sponsorship" and promotes a comprehensive ban on all tobacco advertising (WHO 2003, 11-12). Finally, Article 14, the last article of the treaty addresses "Demand reduction measures concerning tobacco dependence and cessation". This article suggests that parties endeavor to "facilitate accessibility and affordability for treatment of tobacco dependence including pharmaceutical products" (WHO, 2003 13). From the very inception of the FCTC treaty making-process at the WHO, Director General Brundtland and TFI Director Derek Yach understood the importance of sending the clear message that "anti-tobacco does not mean anti-corporate" (Yach 2014 4). One manifestation of this message was the launch of a partnership between four major pharmaceutical companies that manufacture tobacco cessation products and the WHO at the World Economic Forum in 1999.

In the sections that follow I detail how tobacco taxation was re-conceptualized from a mere revenue raising tactic to the "First Principle of tobacco control worldwide" (Warner 2014, i4) during the 1990s due to developments in economic theories of tobacco consumption and addiction. Taxation as a tobacco control strategy was then taken up by the World Bank, which gave considerable support and publicity to the idea – especially through the publication of the *Curbing the Epidemic* report (World Bank 1999). I then turn to development of a new method for communicating the health risks of smoking, the graphic warning strategy, which was created for Australian antismoking campaigns during the 1990s and has subsequently been adopted worldwide. I argue that both taxation and public education strategies are predicated on a vision of the risk-minimizing, health-maximizing neoliberal *homo oeconomicus* who incorporates both current *and future* costs and benefits in their rational calculations. I conclude with a visual tour of graphic tobacco warning labels worldwide.

TOBACCO TAXATION, RATIONAL ADDITION AND THE PUBLIC'S HEALTH

For centuries, governments have taxed tobacco primarily for the purposes of raising revenue. Writing in the late 18th century, Adam Smith, in his *Inquiry into the Nature and Causes of the Wealth of Nations*, grouped tobacco with sugar and rum as commodities which were almost universally consumed but were "no where necessaries of life… [and] are therefore extremely proper subjects of taxation" (Smith 1976). Alternatively, tobacco has been subject to "sin taxes," i.e., taxes on items like tobacco that are seen as amoral or unholy (though not *illegal*) and whose use was therefore punished through taxation. It was not until the second half of the 20th century that some

governments, especially in high-income countries, began to use tobacco taxes for public health purposes by increasing tobacco taxes in an effort to reduce tobacco consumption (Chaloupka, Yurekli and Fong 2012, 172).

Increased tobacco taxes were initially met with resistance from many public health professionals who believed that using taxation as a tobacco control strategy was both ineffective and morally repugnant (Warner 2014, i4). Tobacco taxes were seen as ineffective because smokers were believed to be addicted to tobacco products. From the perspective of economic theory, cigarette smoking (and addictive behavior more generally) was seen as irrational and therefore not amenable to conventional economic analysis (Warner and Chaloupka 1999, 4. See also Schelling 1984). The demand for addictive products was not seen to follow one of the most fundamental laws of economics: the downward-sloping demand curve (Warner and Chaloupka 1999, 4). The demand curve describes the relationship between price of a product and the quantity of it demanded by consumers. Generally, as prices rise, demand for a product falls. The relationship between a commodity's price and consumer demand for it is called price elasticity. Because cigarettes are addictive, it was assumed that cigarettes would exhibit complete price *inelasticity* – addicts would pay higher and higher prices in order to satisfy their addiction i.e., demand would remain high despite an increase in price. As a result, tobacco taxes were seen not only as ineffective, they were seen as highly regressive: in addition to simply not working, higher tobacco taxes would disproportionately effect people of lower income and lower educational attainment who were overrepresented amongst smokers (Warner 2014).

The first steps towards the reconceptualization of taxation as an effective

tobacco control strategy were taken by US economist Eugene Lewit. Lewit completed his PhD at the City University of New York under the guidance of Michael Grossman and worked with Grossman at the National Bureau for Economic Research (NBER). In his PhD, Lewit applied human capital theories of household production to questions of prenatal care and infant survival (Lewit 1977). He subsequently collaborated with Michael Grossman and Douglas Coate to evaluate the impact of various tobacco control strategies on the demand for cigarettes in the United States. These included the impact of the application of the Fairness Doctrine to tobacco advertising from July 1967 to January 1971 (see Chapter 3), the introduction of an advertising ban on tobacco products beginning in January 1971 and the impact of the federal excise tax on tobacco demand (Lewit, Coate, and Grossman 1981). Importantly, they used individual level data on the demand for cigarettes based on Cycle III (1966-1970) of the U.S. Health Examination Survey and, later, data from the 1976 Health Interview Data, to determine that smoking behaviors were indeed sensitive to price increases, especially among teenage smokers. Lewit and colleagues found the elasticity of smoking prevalence among 12-17 year old smokers to be -1.2 and the elasticity of quantity smoked to be -1.4. This meant that for every 10% increase in cigarette prices, teenage smoking prevalence would decrease by 12% while teenagers' total demand for cigarettes would fall by 14% (Lewit, Coate and Grossman 1981, 568. See also Warner 2014). Further research, published the following year, found that for adult smokers, a 10% increase in price would decrease the demand for cigarettes by 4.2% (Lewit and Coate 1982). Lewit et al's finding that teenagers (and members of lower socio-economic groups) were more sensitive to price increases than adult smokers seemed especially promising, because

these were the very same groups with whom traditional public health education campaigns were least effective (Lewit, Coate, and Grossman 1981; Lewitt and Coate 1982; Townsend 1987. See also Reubi 2013).

Lewit and colleagues' findings were quickly taken up by US health economist and tobacco control advocate Kenneth Warner for their policy implications. In 1985, the temporary doubling of the U.S. federal cigarette excise tax from 8 cents per pack to16 cents per pack was scheduled to end. Drawing on the findings of Lewit and his colleagues, Warner argued that continuing the higher excise tax rate would prevent two million Americans from smoking, including more than 460 000 teenagers. Furthermore, it would prevent more than 480 000 tobacco-related premature deaths from occurring in the future (Warner 2012, i4). Following a well-orchestrated advocacy effort by Washington-based public health organizations, the US Senate decided to continue to higher excise tax rate, in part because of these economic arguments (Warner 2012 i4).

In addition to catalyzing this advocacy effort, Lewit, Coate and Grossman's research also helped spark multiple lines of academic research. The first resulted in over 100 studies documenting the outcomes of various "natural experiments" in tax increases, price fluctuations and cigarette consumption, including studies questioning the degree of variation in price elasticity according to age, gender and socioeconomic status (International Agency for Research on Cancer 2011. See also Warner 2014). These studies were originally conducted in countries with well-established tobacco control programs and well-developed academic research programs in health economics, namely the U.S., U.K. and Canada. Eventually, similar studies were undertaken in low- and middle-income contexts as well (S. Chapman and Richardson 1990; Kostova et al.

2011; K. E. Warner, Tam, and Koltun 2013). The results of these studies helped to ameliorate concerns over the regressively of tobacco tax increases because higher sensitivity to price increases was found among smokers of the lowest incomes. As a result, it could be argued that although tobacco taxes were inherently regressive (because of the higher concentration of smoking among low income populations), tobacco tax *increases* were not necessarily regressive:

> In many countries, tobacco use among the lowest income/SES populations is most responsive to price, while use among the highest income/SES populations is least responsive. Thus, a tax increase that raises tobacco product prices will lead to the largest declines in smoking among the lowest income persons, and the burden of tax increase will fall more heavily on higher income consumers whose smoking behavior changes little in response to the tax increase (Chaloupka, Yurekli, and Fong 2012, 176).

Formulated in this way, tobacco tax increases could, counter-intuitively be seen as progressive (or at least, as *reducing* the regressively of tobacco taxes left unchanged).

The second line of academic research investigated how addiction affects price sensitivity and inspired a cascade of studies in the area of "rational addiction studies" (Warner 2014). While prior economic models either ignored addiction or treated it as an irrational behavior, these new models incorporated addictive behaviors within the proper domain of economic analyses (Chaloupka, Tauras, and Grossman 2000, 107). Three different approaches were developed: so-called "imperfectly rational" models, "myopic addiction" models and, importantly, Gary Becker's "rational theory of addiction". The imperfectly rational models of addiction assumed that smokers held inconsistent short-run and long-run preferences. Such an approach is illustrated by the work of US economist and Nobel prize-winning game theorist Thomas Schelling.

According to Schelling, "Everybody behaves like two people, one who wants clean lungs and long life and another who adores tobacco… The two are in a continual contest for control; the 'straight' one often in command most of the time, but the wayward one needing only to get occasional control to spoil the other's best laid plans" (1978, 290). These models of the imperfectly rational addiction were developed theoretically, but didn't find empirical application in smoking or any other addictive behavior (Warner and Chaloupka 1999, 11). "Myopic addiction" models first introduced the idea that current consumption could depend on past consumption by "modeling current demand as a function of a "stock of habits" represented by the depreciated sum of all past consumption" (Warner and Chaloupka 1999, 12. See also Houthakker and Taylor 1970). However, while smokers were seen to realize the dependence of current smoking on past smoking (i.e. that smoking is addictive), they were seen as failing to take into account the *future* consequences of current smoking decisions.

The third, and most influential model of rational addition modeled smoking as a fully rational behavior i.e. that addicts are aware of the dependence of current choice on past behavior *and* consider the future implications of their consumption decisions when making current choices (Chaloupka, Tauras, and Grossman 2000, 108). Importantly, the rational theory of addiction was developed most fully by Chicago School economist, economic imperialist and neoliberal thinker Gary Becker. Becker's rational theory of addiction, first developed as a theoretical model in collaboration with George Stigler in 1977, treated the consumption of addictive goods as a rational behavior amenable to explanation by rational choice theory (Stigler and Becker 1977). "Rationality" was

taken to mean that individuals make consumption decisions based on the maximization of current *and future* utility.

Lewit, Coates and Grossman's empirical findings prompted Becker to return to rational studies of addiction to further develop the model (Becker and Murphy 1988). Becker and Murphy argued that:

> Rational consumers maximize utility from stable preferences as they try to anticipate the future consequences of their choices. Addictions would seem to be the antithesis of rational behavior…Yet…we claim that addictions, even strong ones, are usually rational in the sense of involving forward-looking maximization with stable preferences. Our claim is even stronger: a rational framework permits new insights into addictive behavior.
>
> People get addicted not only to alcohol, cocaine, and cigarettes but also to work, eating, music, television, their standard of living, other people, religion, and many other activities. Therefore, much behavior would be excluded from the rational choice framework if addictions have to be explained in another way. Fortunately, a separate theory is not necessary since rational choice theory can explain a wide variety of addictive behavior (Becker and Murphy 1998, 675-676).

This passage has at least two important implications for the argument being developed here. First, it illustrates Becker's commitment to rational choice theory as applicable to all human behavior, even behaviors like the consumption of addictive substances, which appear to be irrational. Put differently, it demonstrates Becker's *neoliberal* approach to human action and his economic imperialism (Lemke 2001; Foucault 2010; Fine 2002). Second, it demonstrates how Becker's rational theory of addiction conceptualizes addiction not as a property of *things*, but rather as a property of *people*, or more accurately, of their behavior. Addiction to cigarettes or cocaine – which are both physically and psychologically addictive – are rendered equivalent to addiction to eating, music, or religion. Like the myopic addiction model, addiction is here

conceptualized as the effect of *past* consumption on *current* consumption decisions. A consumer who is addicted to a product must have bought the product before and will require the same or increasingly larger quantities of the product in order to derive the same degree of utility from its consumption (Chaloupka, Tauras, and Grossman 2000; Lewitt and Coate 1982; Warner 2014). Unlike the myopic or imperfect models, though, the Becker-Murphy model insisted that "individuals consistently maximize utility over their life cycle, taking into account the future consequences of their choice" (Warner and Chaloupka 1999, 12–13).

Becker then developed a number of hypotheses from the rational model of addiction including "adjacent complementary" or the idea that "the quantities of the addictive good consumed in different time periods are complements… current consumption of an addictive good is inversely related not only to the current price of the good, but also to all past and future prices" (Warner and Chaloupka 1999, 13). In this way, the temporarily of future smoking decisions was collapsed into current cost-benefit calculations. Through the complex mathematical calculations of the model, strong adjacent complementarity was shown to lead to "unstable steady states" helping to explain the abstinence/binge behavior frequently observed among addicts as well the bimodal distribution of consumption found among addictive goods (Warner and Chaloupka 1999, 13).

The case of cigarette consumption provided a particularly good empirical testing site for work in rational addiction studies because cigarettes are one of the very few addictive goods that are legal for sale and because there exists good data on tobacco consumption due to both epidemiological studies and national tax accounts. Another

key implications of Becker's rational addiction model and its collapsed temporality of consumption choices was that long-run effect of a permanent change in price was anticipated to exceed the short run effect. In other words, smokers were seen to be more responsive to permanent price changes rather than temporary fluctuations.

Becker had initially developed the rational theory of addiction during the 1970s in collaboration with George Stigler. He then further developed the model with his PhD student Michael Grossman, who in turn, continued to work in rational addiction studies with his own PhD students. One in particular, Frank Chaloupka, set about empirically testing the rational theory of addiction using data on cigarette consumption from the Second National Health and Nutrition Examination Survey conducted in the late 1970s. In his PhD dissertation Chaloupka reported: "significant intertemporal linkages are found in cigarette consumption…Future events are found to have a significant impact on current consumption" (Chaloupka 1988, v). In other words, Chaloupka found empirical verification of Becker's model and lent support to the vision of smokers as rational addicts. In future research, Chaloupka "found consistent evidence that cigarette smoking was an addictive behavior and that smokers did not behave myopically", i.e. that smokers behaved rationally (Warner and Chaloupka 1999, 13). Further, he found the long-run price elasticity of demand for cigarettes to be within the rang of -0.27 to -0.48, significantly larger than those derived from the conventional calculation of price elasticity using the same data (Warner et al. 1995; Warner and Chaloupka 1999). The implication here is not only that smokers weight future price in current consumption decisions, but that current action to increase cigarette prices (through taxation) provides a way to intervene upon the *future* tobacco epidemic through these higher long-run

price elasticities.

The rational theory of addiction quickly became the most widely applied economic model of addiction (Chaloupka, Tauras, and Grossman 2000, 108). Of course, several of its assumptions drew criticisms; for example, that smokers have perfect foresight, that smokers do not regret their past smoking decisions and that smokers have a full awareness of the consequences of smoking. Nevertheless, the policy implication of the general economic approach to tobacco addiction was proclaimed to be clear: "…because of the dependence of current consumption on past consumption…the effect of a permanent change in price will be greater in the long-run than in the short-run, suggesting that permanent real price increases and strong tobacco-control efforts, which raise the actual and perceived costs of smoking, can be effective in significantly reducing smoking" (Chaloupka, Tauras, and Grossman 2000, 108).[76]

Work in the rational theory of addiction was taken up by the World Bank in its economic studies of tobacco and came to constitute a corner stone of the recommendations delivered in the Bank's influential *Curbing the Epidemic Report.* By 2014, seasoned tobacco economist Kenneth Warner could report:

> Taxation has become a First Principle of tobacco control worldwide, hailed by the World Bank's 1999 "bible" of international tobacco control, *Curbing the Epidemic: Governments and the Economics of Tobacco Control,* and embodied in Article 6 of the Framework Convention on Tobacco Control. Virtually everyone engage in tobacco control now understands the importance of keeping cigarette prices high and the role of raising taxes in doing so (Kenneth E Warner 2014, i4).

The imprint of Becker's rational theory of rational addiction, then can be seen in both

[76] The graphic warning approach to communicating the risks of smoking, which I discuss below, is one way in which the *perceived* costs of smoking may be increased.

the World Bank's economic approach to tobacco control and the World Health Organization's embrace of taxation as a first life defense against the global tobacco epidemic.

Economic justifications for tobacco taxation

Even though Becker, Chaloupka and others had provided both theoretical and empirical arguments in support of tobacco taxation as a tobacco control strategy, the question remained whether government intervention in the tobacco market was justified on *economic* grounds. This question prompted an additional line of academic research into economic rationales for intervention in the tobacco market.

As I mentioned earlier, tobacco has been taxed for the purposes of revenue raising or on the moral invocation of a "sin tax" for hundreds of years. It wasn't until the middle of the 20th century that tobacco taxes were adopted for the public health purpose of discouraging tobacco consumption. Nevertheless, concerns lingered about the regressively of tobacco taxation and raised questions about the justification for such taxes, regardless of their public health intent. One justification emerged along the lines of traditional Pigouvian taxation: taxation aimed at redressing economic externalities. According to economic theory, perfect markets exist where consumers hold perfect information about consumption decisions and bear all the costs associated with their consumption choices. In reality, some consumption decisions are said to general negative externalities, costs born by someone other than the individual consumer. In the case of smoking, such "social costs" were seen in areas ranging from health care costs borne by the State, irritation borne by non-smoking bystanders, to harm suffered by

victims of "passive smoking". A Pigouvian tax attempts to correct for such negative externalities by incorporating taxes – set at rate equivalent to the social costs – into the price paid by consumers. In other words, Pigouvian taxes do the same work of sin taxes in an economic, seemingly amoral, frame.

Some health economists began using social cost arguments to advocate for tobacco taxation beginning in the 1980s and into the 1990s. Smokers generated higher health care costs and took more time off work than nonsmokers, such arguments claimed, and as a result, generated *costs* for society (for a recent version of this argument see Collins and Lapsley 2010). However, smokers' rights advocates quickly countered that while smokers typically generate higher health care costs, they also typically die younger than non-smokers, thus generating net savings on the account of a shorter duration of health care demands and by drawing less from public funds in the form of pension benefits (W. K. Viscusi 1993; K. Viscusi 2003)[77]. While the debates between those who thought smokers generated net cost via health care needs and those who believed smokers generated net savings via dying younger raged, World Bank economists proposed another justification for intervention in the tobacco market: market failure. In its *Curbing the Epidemic* report, the Bank argued that the decision to smoke constituted a form of *market failure* because consumers neither knew all the risks nor bore all the cost associated with their consumption decision.

Traditional economic theory holds that the allocative efficiency of a society's

[77] Such arguments became particularly relevant to the Master Settlement Agreement in the United States, which sought to recover from the tobacco industry costs borne for health care by the 48 plaintiff States (Wolfson 2001; Stanton A. Glantz and Balbach 2000; Studlar 2002; A. Brandt 2007; Proctor 2012b)

resources is best achieved through the consumption choices of individuals in an unfettered marketplace, i.e. through the principle of consumer sovereignty within a free market (World Bank 199, 29). The allocative efficiency argument holds, however, only if consumers hold perfect information about and bear all the costs of their consumption choices. Because smokers were shown to neither know all the health risks associated with smoking nor bear all the costs of their decision to smoke, smoking was conceptualized as a form of market failure.

The report skirted the issue of social costs by acknowledging the huge amount of variation found around the world with respect to different levels of public and private financing for healthcare costs. Nevertheless, the report surmised, "smokers clearly impose direct costs, such as health damage, on non-smokers. There are probably also financial costs, for example in healthcare, although they are more difficult to identify or quantify" (World Bank 1999, 34). As a result, the Bank argued not only that the tobacco epidemic posed an economic threat, but that government intervention was justified on economic grounds. Governments could regulate tobacco products without violating the first principle of neoclassical economic theory: consumer sovereignty. The report proclaimed: "…it appears unlikely that most smokers either know the full extent of their risks or bear all of the costs of their choice. Thus, their consumption choices may result in inefficient allocation of resources. Governments may therefore be justified in intervening to adjust the incentives to consumers to they smoke less" (1999, 34). Put differently, the Bank argued that in governing global smoking behaviors, Governments were justified in altering the costs and benefits in such a way so that the decision *not* to smoke was the only rational course of action. In this way, the cost-benefit calculating,

health-maximizing, future-oriented neoliberal *homo oeconomicus* could be steered towards enacting the desired form of self-optimizing conduct: making the individual decision not to smoke.

HEALTH INFORMATION, RISK COMMUNICATION and GRAPHIC WARNINGS

The *Curbing the Epidemic* report identified market failure as the primary justification for Government intervention in the tobacco market. But taxation was no the only strategy advocated. Correcting for the informational side of market failure also became an important intervention strategy. After taxation, the Bank also recommended increasing consumer information as a strategy to dissuade individuals from smoking. "The long-term downward trend in smoking prevalence in most high-income countries over the past three decades", the Bank reported, "has coincided with a long-term upwards trend in people's levels of knowledge about the harmful effects of smoking." (World Bank 1999, 46). The report identified tobacco warning labels and mass media counter-advertising campaigns as effective ways to increase consumer knowledge about the health risks of smoking. Here I analyze the development of a new approach to communicating the health risks of smoking that coincided with the rise of taxation as a global tobacco control strategy: the graphic warning strategy. Like tobacco taxation, the graphic warning strategy operates on a collapsed temporality by attempting to bring *future* health consequences into current cost-benefit calculations in the decision to smoke. It does so by eliciting a strong negative emotional response to graphic pictorial representations of smokers' presumptive futures, especially their presumed future health. In doing so, the graphic warning strategy attempts to raise the actual and

perceived future costs associated with smoking, thereby tipping the cost-benefit calculations of future-oriented utility-maximizing rational smokers. Here, I analyze the campaign that introduced the graphic warning strategy: Australia's National Tobacco Campaign that was launched in July 1997. I then trace how the graphic warning strategy has been adopted as evidence-based "best practice", especially for tobacco product warning labels, worldwide.

THE AUSTRALIAN NATIONAL TOBACCO CAMPAIGN

"Every cigarette is doing you damage"

On June 12th 1997, the Australian Federal Government launched the country's first national-level anti-smoking campaign. Delivering the message that "every cigarette is doing you damage", the National Tobacco Campaign (NTC), has become a paradigmatic model for effective antismoking initiatives worldwide, and is credited with having reduced Australia's smoking rate from 25% in 1997 to a record low of 16.4% in 2007 (health.gov.au). The campaign has been recognized by the advertising industry both domestically and internationally with awards for its creativity, credibility, originality and effectiveness. Over thirty countries from around the world have adopted materials from the campaign for use in their domestic antismoking initiatives (Australian Government Department of Health and Aging 1997). Importantly, the FCTC cites the campaign's strategies, rationale and effectiveness as evidence in support of its own guidelines for the implementation of Articles 11 and 12 of the treaty (World Health Organization; World Health Organization).

With Federal funding of AUD$7 million over its first two years – the largest

sum ever allocated to any Australian anti-smoking effort – the NTC launched a coordinated, nation-wide mass media campaign unprecedented in both its reach and production value. While earlier campaigns had relied largely on pro-bono advertising work for its creative content and community service placing for its circulation, the NTC engaged the services of a well-known advertising agency and secured prime-time paid advertising spots on major Australian network stations.[78] With continued high levels of joint Federal and State funding, the NTC has sustained its media presence on television, radio and in print media for almost two decades.

The NTC is remarkable for a number of reasons: for its novelty as Australia's first national antismoking campaign, its longevity and intensity, and the considerable levels of funding it has continued to secure. In addition, the messages and rhetorical strategies embraced by the NTC have significantly diverged from earlier antismoking efforts in important ways. While earlier antismoking advertisements were seen to focus on the probabilistic risk of catastrophic illness, highlighting serious but often long-delayed clinical outcomes such as heart attack or tracheotomy and used rhetorical strategies including patient testimonials, illustrative analogies and direct medical advice, the NTC sought to take smokers "on a journey through their own body" to witness the "damage smoking does to [them]" (Australian Government Department of Health and Aging 2006). As Dr David Hill, Chairman of the Ministerial Tobacco

[78] Brown, Melhuish, and Fishlock, the agency responsible for the campaign, also handles accounts for the popular Australian beer brand "Tooheys", the largest domestic dairy producer "Dairy Farmers, as well international corporations such as furniture giant "Ikea", car brand "Renault" and the international authority on weight-control, "Weight Watchers". See www.bmf.com.au.

Advisory Group put it;

> We have endlessly broadcast the devastating statistics about the risk of smoking. This approach has met with limited success, one reason being that smokers sometimes translate warnings about risk into terms such as: "Smoking is like buying a ticket in a lottery that is drawn when you reach 70, and that's a risk I am prepared to take" (Bennet 2006, 10)

In alluding to the temporal distance between current tobacco consumption decisions and future health consequences, Dr. Hill highlights the very same feature of tobacco related disease that Alan Lopez, Neil Collishaw and Tipani Piha had to contend with in modeling the various stages of the global tobacco epidemic (See Chapter 3). In order to collapse this temporal distance between current consumption decisions and probabilistic future health consequences, the NTC emphasized that "every cigarette is doing you damage", i.e the each decision to smoke a cigarette results in negative health consequences.

In order to achieve the dual aims of education and affective response, the NTC introduced graphic warnings to visually represent the physical harms of smoking in ways that were simultaneously *visceral* and *credible* (Hill and Carroll 2003). Chairman Dr Hill, explained: "The campaign is designed to personally involve the smoker by *taking them on a journey through their own body*. We believe that the advertisements will produce a strong and emotional response" (Bennett 2006, 10 emphasis added). I argue that the attempt to *reveal* the internal health effects of smoking relies on long-standing cultural narratives about science and medicine that lend to medical images the mantle of authoritative and objective knowledge. Using Van Dijck's (2005) concept of the "endoscopic gaze" which, she argues, privileges a depersonalized *view from within* the body, I demonstrate how the NTC's use of medical images anchors the visceral

reaction is aims to elicit in the apparent objectivity of medical images.

The "every cigarette" campaign inaugurated the NTC's graphic warning rhetorical strategy in 1997, with the release of television advertisements taking the viewer on a journey through the smoker's body to three different disease destinations ("Artery", "Lung" & "Tumor"). Still images from the three advertisements provided the basis for the development of print advertisements and, eventually, tobacco product warning labels, while the particular health effects served as the basis for four of the nine radio spots that were developed during the first six months of the campaign (the other five provided supportive messages and advice for people in the process of quitting) (Hill & Carroll 2003, ii11). Over the following year, two additional television spots were developed ("Call for help" & "Brain"), while the final two installments ("Tar" & "Eye") were introduced to coincide with the WHO's World No Tobacco Day in May 2000 (Hill & Carroll 2003, ii11). Figure 5.1 provides a summary of the content of the NTC television advertisements.

All but one of the television ads follows a similar structure while the remaining ad ("Call for help") clarifies the role of the national Quitline service. In each of the five "journey" televisions spots, the opening sequence depicts a familiar scene – a man waiting at a bus stop, a young woman sitting on her couch, a mother watching her young children. In each ad, the smoker lights up to the enhanced sound of the strike of the lighter and an extreme close up of the end of the cigarette being lit and engulfed in flames. As the smoker inhales, the viewer is sucked into the interior of the body. At rapid speed the viewer follows the inhaled smoke as it swirls through the mouth, past the trachea and down into the bronchial tubes. From here, the different health effects of

smoking are shown including blindness, stroke-inducing blood clot, accumulation of tar in the lungs, fatty build up in the arteries, the development of lung cancer and the destruction of the lungs.

Table 1 Advertisements used in the Australian campaign from 1997

Element	Advertisement name						
	Artery	Lung	Tumour	Brain	Eye	Tar	Call for help
Empathy device (smoker moment) *"The people behind this advert understand me"*	Desperate male smoker goes to gas jet on stove to light first cigarette of the day	Desperate woman having a smoke break outside an office on a wet windy day. She cups her hands to shield her lighter from the wind	Desperate male smoker at a bus stop sees his bus approaching and smokes quickly to finish his cigarette	Desperate woman having a smoke in her back yard. She looks with concern at her children playing inside	Desperate middle aged man in his car is lighting up a cigarette	Desperate young girl alone in her apartment. She finds a single bent cigarette at the bottom of her handbag, straightens it and lights it up	Male smoker contacts Quitline and speaks to a counsellor about quitting. She praises his efforts to take the first step and suggests sending out a Quit pack
Conditioning device *"Conditions association between act of smoking and images of damage"*	Close up of cigarette being lit (with strong sound effects) followed by view inside windpipe as smoke enters the body.						Not applicable
New news *"This affect me and I did not know it"* *"I can't bear to think I'm doing that to myself"*	A glutinous plug of atherosclerotic deposit is squeezed from a disembodied human aorta. Scene modeled on pathology of a 32 year smoker. Known as "brie cheese" scene	As smoke is pulled and pushed through a healthy red, delicate "sponge like" lung, the membrane begins rotting, forming ugly black, tar-rimmed chambers, turning grey/brown	Smoke damages a vital gene that protects the lung cells from cancer. One damaged cell is all it takes and a large cancerous growth spreads rapidly through the airway	Smoking creates blood clots that can cause strokes, which can kill, blind, or paralyse. We view a brain that is cut in half to show the damaged brain, which oozes tissue and blood	Chemicals from tobacco smoke get into the blood stream and can damage the eye. We view a close up eye and zoom in through the pupil. The surface of the retina becomes blotchy as a capillary bursts. A dark bruise spreads across the retina	Every time you inhale, tobacco smoke condenses in the lungs to form tar. A full beaker of tar is poured onto the cut surface of a healthy lung. We view the tar closely as is seeps into the delicate sponge like tissue	Not applicable
Certain effects *"These are immediate and certain effects of smoking, not just a chance I take"*	Text and voice over: "Every cigarette is doing you damage"						Not applicable
Publicise quitline *"Note down number and call helpline"*	Quitline number 131848 appears on the screen						

Figure 5.1: Summary of the "Every cigarette is doing you damage" campaign advertisements
Reproduced from (Hill and Carroll 2003)

These medical facts are displayed either from inside the body, as with the development of lung cancer and the bursting of delicate blood vessels in the eye, or within the clinical confines of the hospital operating theatre where, for example, in the anatomical pathology of the stroke victim's disembodied brain. As the smoker exhales, the camera similarly retreats back up the bronchioles, past the trachea and out through the mouth. The advertisement concludes with the particular smoker either coughing or quickly

taking another drag of the cigarette before returning to the task at hand – be it looking after their children, or catching an approaching bus. Each advertisement begins and finishes with the "every cigarette is doing you damage" tagline, and all end with the "smoky endframe", conveying details of the national QUITline. In total, between the July 1997 and 2000, six television advertisements, nine radio spots, and a host of print media were developed, each emphasizing one of the health effect of smoking graphically depicted in the ads.

Each advertisement begins and finishes with the "every cigarette" tagline, and concludes with the "smoky endframe", conveying details of the national Quitline (see Figure 5.2). To a background soundtrack of an eery, dissonant chord the dimly-lit endframe appears. Initially, the bold-type details of the Quitline, as well the smaller message attributing the ad to the NTC, are the only legible text. Behind the text is a somewhat ambiguous image, shrouded in wafting smoke. Reminiscent of a silhouetted cigarette package, with a solitary burning stick in the foreground, the image could equally be read as a thoracic X-ray, depicting the spinal column and lungs of a smoker.

Figure 5.2: "Smoky Endframe"
Stills from 0:25 and 0:28 respectively. Reproduced from www.quitnow.info.au/internet/quitnow/publishing.nsf/Content/smokescreen-lp.

The billow of smoke illuminating the details of the Quitline could be that emanating from the cigarette butt, or that contaminating the interior of the smoker's body. As additional smoke wafts from left to right across the screen, the "every cigarette" tagline emerges. The brightness of the tagline message is both shifting and irregular. It wavers slightly, appearing to float in the smoky haze as an authoritarian voice-over proclaims that "every cigarette is doing you damage".

Still visual imagery similar to that used in the televisions spots was adapted by the NTC for print-media advertising, while the television ad's eerie sound effects, authoritarian male voice-over, and "every cigarette" tagline were adopted for use in radio spots. The radio ads also invoked the television spots by inviting listeners to visualize the health effects of smoking on their own bodies:

> ...close your eyes and think about the damage every cigarette is doing inside your body. See the delicate tissue of your own lungs being attacked by smoke... and "rotting". Imagine your own arteries clogged by fatty gunk - like the one in the TV commercial. Cravings only last a few minutes. Seeing the damage inside your body, can help you fight them... ("See the Damage" 1997).

In total, between the launch of the "every cigarette" campaign in 1997 and 2000, six television advertisements, nine radio spots, and a host of print media were developed by the NTC, each employing graphic warnings about the ways in which smoking effects the health of every individual smoker.

The NTC continued its heavy media presence through the early years of the new millennium even though it did not release further campaign materials. Nevertheless, its emphasis on graphic warnings reached a new in March 2006 when the Australian Federal Government introduced graphic health warnings as a required component of the

package labeling for all tobacco products sold in Australia. Consisting of full-color images and stark causal claims about the physical harms of smoking, the graphic warning labels built on the successes of the NTC, employing already- familiar images and the same rationale as earlier aspects of the campaign (see Figure 5.3) The emphatic message created by bold typeface, white-on-black or -red text, and horrific visual representation of the oral pathology of mouth cancer were intended to shock.

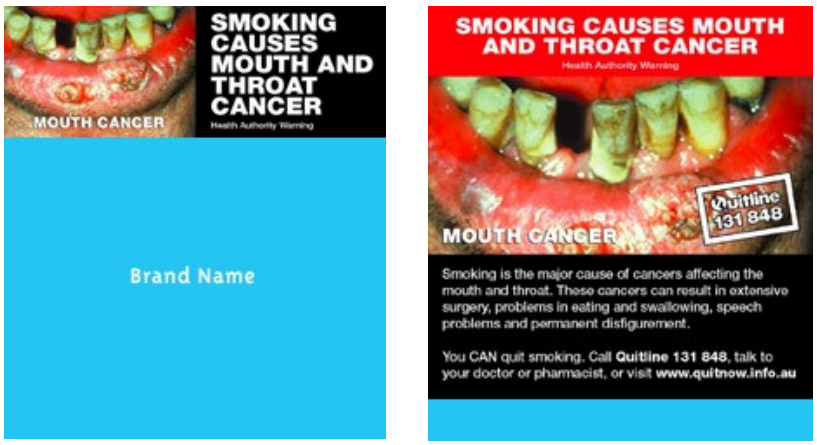


Figure 5.3: "Mouth Cancer" graphic warning label front (left) and back (right) Reproduced from http://www.quitnow.info.au/internet/quitnow/publishing.nsf/Content/warnings-mouth

The Government media release introducing the graphic warning labels characterized them in terms striking similar to other aspects of the "every cigarette" campaign:

> Graphic images that aim to shock Australian smokers by revealing the physical effects cigarettes have on the body are the focus of a new anti-smoking campaign officially launched today at Parliament House, Canberra... The new graphic health warnings provide a strong and confronting message to smokers about the harmful health consequences of tobacco products and convey the "quit" message every time a person reaches for a cigarette. The graphic images, in combination with the health warnings and explanatory messages, are intended to increase consumer knowledge of health effects relating to smoking, to encourage cessation and to discourage uptake or relapse (Pyne 2006).

The same goals that were articulated with respect to the NTC television advertising

campaign, namely the intent to educate smokers and produce an affective response, were similarly evident here in the aim to shock and smokers.

However, despite the emphasis on the "shock value" of the graphic warnings, the images were nonetheless presented as neutral portrayals of the real health consequences of smoking. Drawing on the presumed neutrality of scientific knowledge, Chairman Dr David Hill gave reassurance of the "rigorous scientific approach" employed throughout the development of the graphic warnings: "Scientists and medical experts have been involved in the campaign from an early stage and have verified that the advertisements are a fair representation of the pathological impact of smoking" (Bennet 2006). Similarly, the campaign advertisements proclaiming simply to make the effects of smoking "plainer to see" and to "make smokers more aware of the health effects of smoking".

Figure 5.4: Print advertisements introducing Australia's graphic warning labels
Reproduced from
http://www.quitnow.gov.au/internet/quitnow/publishing.nsf/Content/warnings-posters

The putative objectivity of the graphic warning strategy subsequently became the theme for the WHO's World No Tobacco Day in 2009, which emphasized graphic warning labels under the slogan: "Showing the truth, saving lives" (See Figure 5.5).

Figure 5.5: Showing the truth, saving lives: The case for pictorial health warnings World No Tobacco Day 2009. Reproduced form http://www.who.int/tobacco/resources/publications/wntd/2009/materials/brochure/en/

In using visual representations of the internal health consequences of smoking, the NTC draws on well-establish cultural narratives that equate medical images of the interior of the body with authoritative and objective knowledge, which lend significant credibility to the graphic warning rhetorical strategy. I discuss these narratives next.

Medical display and scientific objectivity: practices of witnessing

The National Tobacco Campaign's novel rhetorical strategy of visually the physical harms of smoking, draws on a much longer history of "witnessing" in both science and medicine (Shapin and Schaffer 1985; Jordonova 1995). In the case of medicine, practices of witnessing initially centered around dissections and pathological

anatomy and, later, anatomical atlases that were deemed credible on the basis of their author's reputation and connection (Jordonova 1995, 203. See also van Dijck 2005). By the mid-19th century a new emphasis on the epistemic virtue of "objectivity" displaced the testimony of reliable, well-connected authors, and redefined the ways in which the authority of knowledge-claims could be achieved. As Daston and Galison (2010) explain, to be objective "is to aspire to knowledge that bears no trace of the knower – knowledge unmarked by prejudice or skill, fantasy or judgement, wishing or striving. Objectivity is blind sight, seeing without inference, interpretation or intelligence" (17). Mechanical modes of image-production soon rose to ascendency, photography in particular. With the direct relationship between image and referent that photography was assumed to assure, photographs eventually replaced illustrations as the primary mode of visual representations in both science and medicine, and became the technique through which credible and objective images could be produced.

Throughout the later half of the 19th century, photography was employed in scientific and medical practice in a variety of ways. In medicine, it was used to document and categorize patients of medical institutions, to trace the development of disease, in anthropometric measurement and in physiognomy (Sturken and Cartwright 2009, 282). By the 1890s with the development of X-rays, medical image-making was seen to offer a new vision of the *interior* body. The same objectivity associated photographic images was extended to images mechanically produced by X-ray techniques as well (Cartwright 1995). Unlike early medical photographs, though, X-ray images thoroughly captured the public's - with the development of X-rays, medical images began to permeate popular culture in ways that blurred the distinctions between

public and private, specialized knowledge and popular fantasy, and medical science and popular culture (Cartwright 1995,107).

Cultural theorist José Van Dijck has theorized the more contemporary convergence of technology, medicine and popular culture in the proliferation of endoscopy, ultrasound or MRI, CAT and PET scans. She proposes the notion of the "endoscopic gaze" to highlight how medical images are seen to present a neutral, seemingly "objective" view of the body's interior. As she explains:

> The interplay of technology, medical practice, and cultural appropriation becomes manifest in what I will refer to as "the endoscopic gaze." In contrast to Laura Mulvey's "cinematic gaze", the endoscopic gaze signifies the surgeon's view from within the body, enabled by medical technology. In the case of the cinematic gaze, the spectator is forced to adopt the perspective of the camera, which often produces a depersonalized, detached view of the object; the endoscopic camera similarly creates a seemingly "objective", neutral view of the object, in this case, the body's interior...We no longer peer from the outside in, through an incision in the skin; instruments now allow us "immediate" access to the body's tiniest details (van Dijck 2005, 66).

The "endoscopic gaze", then, privileges a depersonalized *view from within* the body, showing "objective" knowledge about the body's interior.

The operation of the endoscopic gaze is evidence in each of the television ads. Each of the opening sequences depicts a familiar scene – a man waiting at a bus stop, a young woman sitting on her couch, a mother watching her young children. In each ad, the smoker lights up to the exaggerated sound of the strike of the lighter and an extreme close up of the end of the cigarette as it is lit and engulfed in flames. As the smoker inhales, the viewer is sucked into the interior of the body. At rapid speed the viewer follows the inhaled smoke as it swirls through the mouth, past the trachea and down into the bronchial tubes. From here, a variety of different health effects of smoking are

"revealed": blindness, stroke-inducing blood clot, accumulation of tar in the lungs, fatty build up in the arteries, the development of lung cancer and the destruction of the lungs. These medical facts are witnessed either from inside the body, as with the development of lung cancer and the bursting of delicate blood vessels in the eye, or within the clinical confines of the hospital operating theatre, as with the pathological anatomy of a stroke victim's disembodied brain. As the smoker exhales, the viewer similarly retreats back up the bronchioles, past the trachea and out through the mouth. The advertisement concludes with the particular smoker either coughing or quickly taking another drag of the cigarette before returning to the task at hand, be it looking after their children, or catching an approaching bus. Each advertisement begins and finishes with the "every cigarette" tagline, and concludes with the "smoky endframe", conveying details of the national Quitline.

In each of the "journey" televisions spots, the smoker lights their cigarette with great relief. For example, the "artery" spot show a disheveled man lighting his first cigarette of the day from the kitchen stove. Another ("lung") depicts a young woman searching between the cushions of her sofa, before pulling out a bent cigarette, straightening it out, and lighting it up. Yet another ("stroke") shows a mother slipping out onto her balcony, out of the line of sight of her two young children, who are now playing unsupervised in the living room. As the smoker inhales and the viewer is sucked into the interior of the body the apparent objectivity of the endoscopic gaze takes over. While the viewer witnesses some of these medical fact as displays of pathological anatomy ("Artery" and "Stroke"), the initial journey into the body and descent down the bronchial tubes invokes the same cultural narratives of medical

authority and scientific objectivity that accompany the endoscopic gaze. For example, after passing down the bronchial tubes, the "Stroke" advertisements cuts to the clinical confines of an operating theatre, or perhaps an autopsy lab, where the dissection of a 38 year old stroke victim's disembodied brain is displayed. In the "Artery" spot, a fatty build-up is squeezed from the aorta of a smoker whom, we are told, was aged 32. In each case, the depersonalized, detached view of the object that Van Dijck associates with the endoscopic gaze is evident; the surgeon or anatomist performing these dissections remains anonymous and is identified only by their gloved hands, or masked and goggled face. Adding to the apparent objectivity of these clinical scenes is a subtle invocation of the cultural narrative of photographic truth. This is accomplished through the overlay of gradated markings and the artefacts of medical film on the pathology scene. In the "Stroke" and "Artery" stills shown below (Figure 5.6), the putative objectivity established by the initial endoscopic journey into the body is maintained by the continuation of an impersonal view of the object. The authority of science is

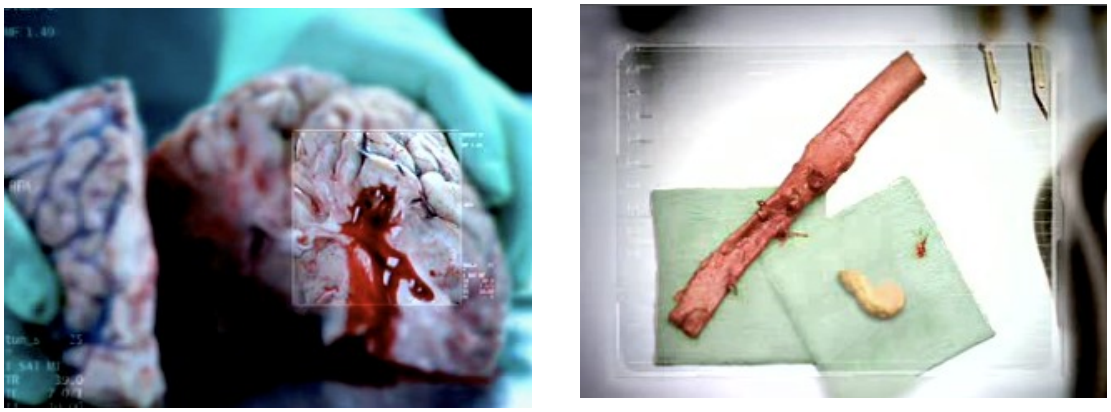


Figure 5.6: Stills from "Stroke" and "Artery"
Reproduced from
http://quitnow.info.au/internet/quitnow/publishing.nsf/Content/smokescreen-lp.

invoked by the steely, sanitized and highly controlled environs of the clinical laboratory

setting, and reinforced by a subtle appeal to the putative objectivity and photographic truth of the medical image.

While the endoscopic gaze is invoked in these two televisions spots, it is more thoroughly employed in the "Tumor" and "Eye" advertisements, in which the viewer witnesses the health effects of smoking from *within* the interior of the body. In both of these ads, the viewer is sucked into the body with the smoker's initial inhalation of smoke. In the "Tumor" spot, the viewer remains suspended in the airway, witnessing the continued intake of smoke into the smoker's lungs. The notion of photographic truth is similarly invoked here; as the scene cuts to a further close-up of the lining of the lungs, it is accompanied by the familiar sound of a digitalized camera-shutter, and employs same gradated artefacts of medical imaging films discussed above (see the outer perimeter of both images in Figure 5.6).

The narrator informs the viewer that "New research shows how tobacco smoke *attacks* a vital gene which protects lung cells from cancer. One damaged cell is all it takes to start lung cancer growing" ("Tumor" script, accessed 2009). Still suspended in the airway, the viewer witnesses a cancerous tumor begin to grow. All the while, tufts of smoke continue to waft by, further attacking the lungs and aiding the growing pathology (see Figure 5.7). The ad cuts to a different endoscopic scene within the lungs. Similarly under attack by tobacco smoke, this narrow passage is closing in, presumably due to cancerous growth. As the airway becomes almost entirely constricted, the viewer is drawn back up through the bronchioles and expelled with the smoker's exhalation of smoke. While the viewer has now witnessed the damage caused by smoking, the smoker - still blithely unaware - continues to smoke, taking a last drag of his cigarette

before the arrival of his approaching bus.

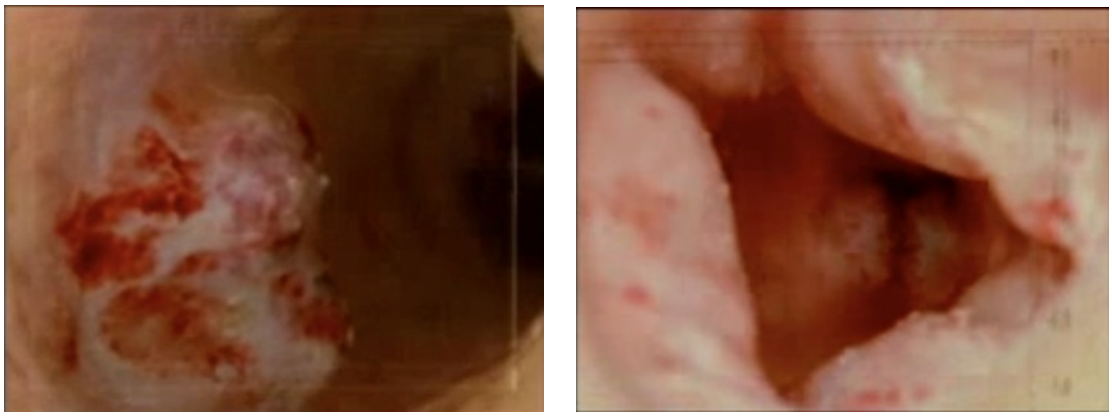


Figure 5.7: Stills from "Tumor"
Reproduced from
http://quitnow.info.au/internet/quitnow/publishing.nsf/Content/smokescreen-lp.

Similarly with the "Eye" advertisement; after the viewer is initially drawn into the smoker's body, the advertisement cuts to an external close up of an eye, held open by a speculum (see Figure 5.8). The camera zooms closer and closer, eventually passing through the pupil into the interior of the eye.

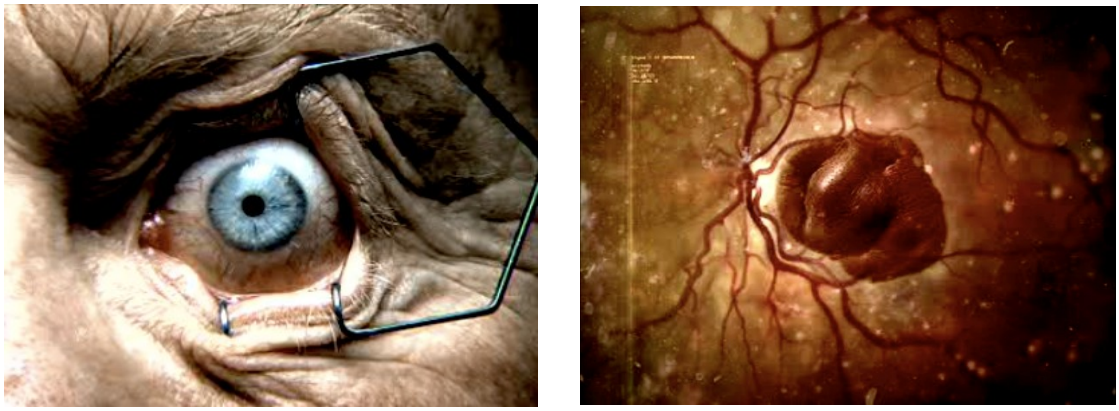


Figure 5.8: Stills from "Eye"
Reproduced from
http://quitnow.info.au/internet/quitnow/publishing.nsf/Content/smokescreen-lp.

The muffled sound of a heartbeat contributes to the sense that the viewer has journeyed into the body's interior, while the use of camera zoom and the artefacts of medical

imaging films invoke the same notion of photographic truth as the "Tumor" ad discussed above. Once within the interior of the smoker's eye, the viewer again witnesses the damage caused by smoking. The narrator explains: "Chemicals from tobacco smoke get into your blood stream and can damage the delicate blood vessels inside your eye. We now know that smoking is a major cause of irreversible blindness" ("Eye" script). The viewer remains within the eye as a delicate blood vessel bursts, and bruising begins to spread across the retina. Having witnessed this health effect of smoking, the viewer begins to retreat. However, rather than returning by the same route through the pupil, the viewer is similarly expelled with the smoker's exhalation through the mouth, connecting the internal damage to the eye more explicitly with the effects of tobacco smoke.

Scholars of visual culture have drawn attention to the traffic between medicine and the media as one of the most fruitful sites analysis of visual representation (Cartwright 1995; Van Dijck 2005). Collectively, they have demonstrated the interwoven development of science, medicine and popular culture in domains as diverse as the early cinema (Cartwright 1995), the nature-film (Mitman 2013), MRI, PET and brain scans (Joyce 2008; Prasad 2014; Beaulieu 2002) and twentieth century public health (Serlin 2010). The media often serves to communicate medical knowledge while also producing the spectacle of displaying the interior body. In order to accomplish both of these simultaneously, medical images must be seen to be both authoritative and credible – a task that is achieved by drawing on cultural narratives of scientific objectivity. Medical images and photographs seem to reveal the facts of nature, and to enable practices of witnessing by a general, non-specialized audience. By appealing to

the scientific objectivity and credibility of medical images, the endoscopic gaze creates the spectacle of *revealing* the interior of the body, while enabling viewers to *witness* the public display of medicine's "matters of fact".

The endoscopic gaze pervades the Australian National Tobacco Campaign; in its attempt to reveal the internal health effects of smoking, in purporting to enable smokers to witness the damage smoking does to them, and in its claim to make the effects of smoking "plainer to see". The graphic warning strategy, and attendant deployment of the endoscopic gaze, has since been taken up as best practice in tobacco control worldwide. This can be seen in the rapid adoption of graphic warning labels worldwide.

The FCTC and Graphic Warning Labels

As I mentioned earlier in this chapter, Article 11 of the FCTC treaty deals with "Packaging and labeling of tobacco product". In addition to prohibiting the use of misleading terms such as "low tar", "light" and "mild", Article 11 requires that each unit packet and package of tobacco products carry health warnings describing the harmful effects of tobacco use. The article then lays out five criteria for adequate warning labels. Warning labels, the treaty specifies:

I. shall be approved by the competent national authority
II. shall be rotating
III. shall be large, clear, visible and legible
IV. should be 50% or more of the principal display areas but shall be no less than 30% of the principal display areas,
V. may be in the form of or include pictures or pictograms (World Health Organization 2003b, 9–10).

While the treaty itself does not require member state parties to implement graphic warning labels (labels *may* be in the form of pictures), the guidelines for

implementation of Article 11 of the FCTC, adopted by the 3rd Conference of the Parties at in Durban, South Africa 2008 more firmly recommended the use of graphic warnings. The Guidelines state:

> Evidence demonstrates that the effectiveness of health warnings and messages increases with their prominence. In comparison with small, text-only health warnings, larger warnings with pictures are more likely to be noticed, better communicate health risks, provoke a greater emotional response and increase the motivation of tobacco users to quit and to decrease their tobacco consumption. Larger picture warnings are also more likely to retain their effectiveness over time and are particularly effective in communicating health effects to low-literacy populations, children and young people (World Health Organization).

The guidelines also draw on the logic of Australia's NTC graphic warning strategy:

> Evidence suggests that health warnings and messages are likely to be more effective if they elicit unfavorable emotional associations with tobacco use and when the information is personalized to make health warnings and messages more believable and personally relevant. Health warnings and messages that generate negative emotions such as fear can be effective, particularly when combined with information designed to increase motivation and confidence in tobacco users in their ability to quit (World Health Organization).

The guidelines also emphasize the cost-effectiveness of tobacco warning labels, carefully specifying that the costs of placing required health warning labels of tobacco produces is borne by the tobacco industry (World Health Organization).

Graphic warning labels have been rapidly adopted as a cost-effective tobacco control measure by Member State national governments, the global tobacco control movement and by philanthropic donors. For example, in 2006 philanthropist and former Mayor of New York City launched a $125 global initiative – and partnered with the WHO – to reduce tobacco use in low and middle-income countries. In 2008 this sum was in increased to $500 million with additional funds from Bloomberg and from the

Bill and Melinda Gates Foundation. The initiative aims to reduce tobacco use through 6 specific strategies under the MPOWER acronym, each of which links to a specific article of the WHO FCTC:

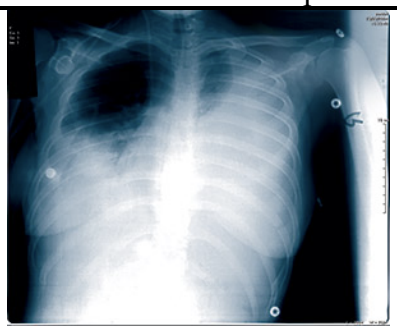
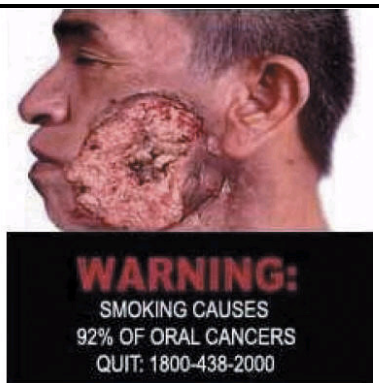
> M – Monitor tobacco use and prevention policies
> P-Protect people from tobacco smoke
> O – Offer to help to quite tobacco use
> W –Warn about the dangers of tobacco
> E- Enforce bans on tobacco advertising, promotion and sponsorship
> R – Raise taxes on tobacco ("WHO Report on the Global Tobacco Epidemic 2008: The MPOWER Package" 2008).

In the first MPOWER report on the global tobacco epidemic in 2008, it was reported that only 4% of the global population were covered by "best practice" tobacco warning labels, which had been implemented by 5 countries. By 2012, the last year for which data was reported, this share had increased to 14% of the global population shared among 30 countries. Similarly by 2012, 54% of the global population was reported to be covered by "best practice" anti-tobacco mass media campaigns. This rate had increased by 32 percentage points (from 22% of the global population) since 2010 ("WHO Report on the Global Tobacco Epidemic 2008: The MPOWER Package " 2008, 2013). In addition to endorsing the graphic warning strategy for tobacco warning labels, the MPOWER report advocated the use of graphic mass media campaigns against tobacco as a *universal* tobacco control measure: While it has long been established that anti-tobacco advertisement that graphically show the harms of smoking are effective in hig-income countries, new research…shows that they are also effective in low- and middle-income countries… Ads using images that graphically demonstrate the health harms of tobacco use are shown to be easily understook and consistently effective in all

countries, regardless of income level ("WHO Report on the Global Tobacco Epidemic 2008: The MPOWER Package" 2013, 66).

In order to help facilitate country-level sharing of pictorial health warnings and messages, the WHO now hosts a WHO FCTC Health Warnings Database with health warning labels and messages shared by 21 countries. The database is searchable among 23 thematic categories including addiction, health effects, parental smoking, pregnancy and quitting/cessation. Below I reproduce a selection of these warning labels to illustrate the widespread uptake of the graphic warning strategy (See table 5.1. All images are reproduced from http://www.who.int/tobacco/healthwarningsdatabase/en/). Many, though not all, of the the graphic warnings from around the world adopt the "endoscopic gaze" of Australia's NTC that I described above. But even those that adopt a different visual strategy attempt to elicit a strong negative affective response to the presumptive future of smokers' health graphically displayed by the warning label. In doing so, these demand reduction strategies attempt both to education smokers about the risks of smoking and increase the real and perceived costs of smoking by education and affective smoker's consumption choices. The graphic warning strategy thus aims to alter the costs and benefits of current and future smoking in such a way that deciding *not* to smoke is the only rational course of action for the neoliberal *homo oeconomicus.*

Table 5.1 Graphic Warning Labels around the world

 Caption: Smoking can cause a slow and painful death Country: European Union	 Caption: Smoking causes heart diseases Country: Mauritius
 Caption: The Ministry of Health Warns: Use of this product blocks arteries and makes blood circulation more difficult Country: Brazil	 Caption: Cigarette Causes Miscarriage Countries: Malaysia and Singapore
 Caption: Smoking when pregnant harms your baby Region: European Union	 Country: Singapore

CONCLUSION

In this chapter, I have shown how the WHO FCTC represents a "paradigm shift" in the control of diseases caused by harmful and addictive substances because it emphasizes *demand* reduction strategies. Instead of regulating tobacco *products*, the FCTC treaty primarily regulates the behaviors of tobacco-using *people*. I have shown how it attempts to do so by correcting what the World Bank identified as market failure in the decision to smoke, i.e. that smokers neither full know their risks nor bear the costs of their individual consumer choice (1999a). The two central demand reduction strategies of the FCTC are designed to correct for this market failure through education (increasing smokers" knowledge about the risks of smoking) and taxes (increasing the "costs" involved in deciding to smoke). Education campaigns and taxation strategies both seek to alter the costs and benefits of present *and future* smoking in such a way that the decision not to smoke is the only rational course of action. I argue that both of these demand reduction strategies are based on a model of a cost-benefit calculating neoliberal *homo oeconomicus* – the same figuration of human action that I argued undergirds the DALY metric discussed in Chapter 2.

In attempting to intervene upon the risky yet still perfectly legal decision to consume tobacco products, then, the FCTC attempts to govern global health through prescribing health-maximizing, risk-minimizing behaviors – i.e. by prescribing the conduct of conduct of the global population. And by bringing the *future* costs of smoking into present cost-benefit calculations in an attempt to effect the self-optimizing behavior of neoliberal *homo oeconomicus.*

CONCLUSION:

GOVERNING GLOBAL HEALTH

In February 2015, WHO Headquarters in Geneva, Switzerland hosted celebrations marking the 10th anniversary of the creation, acceptance and entry-into-force of the world's first public health treaty: the Framework Convention on Tobacco Control. Dr Margaret Chan, Director General of the WHO, addressed ministers, ambassadors, representatives of the Geneva missions, civil society organizations and a variety of UN colleagues who had assembled to celebrate the occasion. "This is one of the most important anniversary celebrations I have ever attended", she told the audience. "Tobacco use stands out as the single greatest cause of preventable morbidity and mortality worldwide" (World Health Organization 2015). The tobacco threat was matched, however, by an innovative solution and signature WHO accomplishment, the FCTC treaty: "The WHO Framework Convention on Tobacco Control stands out as the single most powerful preventive instrument available to public health. I want to commend the vision of Dr Brundtland in taking this forward" (World Health Organization 2015).

Chan continued her address by reflecting on the role she had played in the treaty's evolution. She characterized herself and Brazilian WHO delegate Dr Vera Costa e Silva, among others, as "early midwives" to the treaty as they had served as co-vice chairs of the very first working group of the FCTC treaty in 1999. "Everywhere I

go", Chan confessed, "I promote the Framework Convention" (World Health Organization 2015).

Chan highlighted a number of specific ways in which the Framework Convention was "truly a landmark victory for public health". Most importantly, she argued, it saves lives. The FCTC also serves, she reported, as an outstanding model of intersectoral collaboration in support of health objectives: "The importance of this model continues to grow as more and more of the 21st century's biggest threats to health have root causes that lie in non-health sector" (World Health Organization 2015). But she reserved her lengthiest praise for the evidence-based approach of the FCTC treaty: "[The FCTC] demonstrates the persuasive power of evidence-based arguments. When public health policies cross purposes with the interests of powerful economic operators, economic arguments trump public health time and time again. Not this time. Public health won" (World Health Organization 2015).

This dissertation has presented a slightly different account. Whereas Chan characterizes the FCTC as a public health triumph over economic arguments, I have shown how, in the case of the FCTC, public health and economic arguments *aligned*: the FCTC *won* because its evidence base *was economic.*

Chan's characterization of the FCTC as an "evidence based" treaty conforms to the model of "cognitive convergence" that dominant public health narratives of the FCTC treaty almost universally espouse. On this model, different parties adopt convergent ideas based on shared scientific understandings of the world and enact social change on the basis of scientific evidence. Science is seen as prior to and as a determinant of social policy and as standing outside of social, political or historical

context. In contrast to this simple linear causal story from scientific evidence to policy outcome, this dissertation has taken an interdisciplinary approach in order to attend to the complexity involved in the emergence of the global tobacco epidemic, the development of the FCTC, and the transition from international to global health more generally.

Building on theoretical work in Science and Technology Studies, biopolitics and social movements theory, this dissertation has argued that the accomplishment of the FCTC treaty depended on a new way of quantifying disease, economizing life and governing health that emerged in the transition from international to global health at the dawn of the 21st century. Both the science and the policy of global tobacco control have been coproduced in ways that have depended on the historical, social and political context of the late 20th and early 21st centuries. In this conclusion, I summarize the dissertation's central argument and contribution before giving a brief illustration of the ongoing relevance of the analysis offered here.

GUIDING QUESTIONS AND KEY EMPIRICAL FINDINGS

The dissertation was guided by three interrelated research questions: 1) How did the threat posed by tobacco come to be seen as an issue of global concern? In other words, how did the "global tobacco epidemic" emerge as an object of knowledge? 2) Why did international regulation, in the form of a legally binding, WHO sponsored treaty, emerge as the best strategy for intervening upon the global tobacco problem? And 3) What light does the case of the FCTC shed on the transition from international to global health during the 1990s more generally?

Colonial tropical medicine, cold war international health, neoliberal global health

To answer these questions, I began by tracing the history of attempts to deal with the problem of health on a transnational scale through three eras: colonial tropical medicine, cold war international health and contemporary neoliberal global health. I illustrated how, during each of these eras, developments in the practice of world health were intimately tied to the science of health and hygiene, to geopolitical transformations at both the national and international level, and ideological contests on the world stage. During the first era, colonial tropical medicine drew on the new fields of parisitology, germ theory and epidemiology and coupled them with extant colonial structures of authority in order to attend to the vital needs of white bodies in tropical lands. The founding of the London School of Tropical Medicine captures the essence of this era. Not long after the establishment of the London School, the creation of the Rockefeller Foundation's International Health Division began to shift the emphasis of world health away from tropical medicine towards a more internationalist approach – one that would gain increasing momentum after each of the World War, reaching its peak in the geopolitical climate of the Cold War. Cold War international health quickly became aligned with US foreign policy objectives and focused on the vitality of those bodies perceived to be vulnerable to the spread of communism within the geographic space of the Third World. The tensions within the World Health Organization's Malaria Eradication Program are emblematic of this era. Even in this broad overview, the fundamental interconnectedness of science and politics of world health was apparent.

I then traced the development of contemporary global health, the contours of which are still emerging. The transition from international to global health during the 1990s is usually attributed to processes of neoliberal globalization, especially to the rise of a set of neoliberal economic policies known collectively as the Washington consensus. In these accounts the declining role of WHO dating from the budget freezes of the 1980s, the relative ascendance of the World Bank and its associated structural adjustment policies in world health affairs, the proliferation of public-private partnerships and Bill Gates-style global health philanthrocapitalism and focus on reemerging and infectious diseases like HIV/AIDs, pandemic influenza, SARS, malaria, tuberculosis and the Ebola virus feature prominently. So too does the 1993 publication of the World Bank's World Development Report *Investing in Health.* However, many of these accounts focus on the impact of the report on the *structure* of the field of world health, i.e. on the dominant institutional actors, the structures of global health delivery, and the financing of health care services. Frequently left out is attention to the *epistemological* importance of *Investing in Health*, that is, to how it has shaped the mode of rationality that underpins the health of the global population as a scientific and political problem.

The FCTC admist the new global health

Although the FCTC is frequently cited as a landmark *global* health intervention, at first glance, the FCTC treaty doesn't seem to fit comfortably with the characterization of the contemporary global health landscape given above. It was negotiated under the auspices of the now-decentered WHO and operates through the national governments of

its member-state parties and deals with non-communicable diseases (at least those caused by tobacco use), all in a public health frame in which questions of privatization or structural adjustment are largely peripheral. In light of my general characterization of the field of global health, the FCTC presents a puzzle: Why tobacco? And why now?

In attempting to answer this puzzle, I showed how a new mode of rationality emerged in the transition from international to global health – one that can be seen in a lesser-known but equally important dimension of the *Investing in Health* report: its introduction of the Disability Adjusted Life Year (DALY) metric. The DALY metric is a summary measure of population health developed to calculate the incidence of health and disease at the global aggregate level: the so-called "global burden of disease" (Murray and Lopez 1996a). It is a decremental measure equivalent to the loss of one year of life lived in perfect health. The DALY metric was designed to fulfill two primary purposes. First, it was intended to account for the "full loss of healthy life" due not only to death, but to disease and disability as well, by measuring both mortality and morbidity in the same unit of analysis. Second, it was intended to facilitate the use of cost-benefit analysis in prioritizing potential health interventions in the units of dollars spent per DALYs gained. In this way, the DALY metric was designed to facilitate the optimization of global health by aiding national government in directing scarce health resources towards "essential health services" in the most economically rational way (Jamison, Mosely, et al. 1993).

Quantifying disease, economizing life, governing health

But far more than just facilitating cost-benefit calculation and economic rationalization, I argued that the DALY metric accomplishes an *economization of life* by imagining health as a form of human capital and, as the very title of the World Bank report suggests, as a site of *investment.* The logic of *Investing in Health* prioritizes those public health strategies, like tobacco control, that attempt to intervene upon the health behaviors of individuals in order to make them more health-maximizing, i.e. its primary governmental strategy is *self-governance.* I demonstrated this emphasis on self-governance strategies through the demand reduction strategies of the FCTC. I argue that in addition to the semantic shifts and neoliberal structural reforms, this new way of knowing and governing the health of the global population is key in understanding the transition from international to global health at the end of the 20th century.

Crucially for the FCTC, the DALY metric also brought both the scale of the global tobacco epidemic and the cost-effectiveness of interventions to curb its spread into sharp relief, especially through the uptake and redeployment of the DALY metric in the Global Burden of Disease (GBD) study and Disease Control Priority (DCP) project. These studies were part of broader World Bank efforts to come to terms with the changing historical context of world health during the latter part of the twentieth century due to the "epidemiological transition". They also comprised part of the World Bank's attempts to define a "categorical" middle-way through the selective vs comprehensive primary healthcare debates of that era. The GBD study and DCP project helped constitute the global tobacco epidemic as an object of epidemiological and economic knowledge and made tobacco control and obvious priority for important transnational institutions including the World Bank and World Health Organization.

The early tobacco control movement

However, the newly recognized burden of the tobacco epidemic was not the first warning of an impending tobacco threat. Nor did the World Bank's problematization of the global tobacco epidemic lead directly to the creation of global tobacco control interventions in a strictly linear way. The World Bank's burden-of-disease characterization of tobacco and the World Health Organization's solution to that problem in the form of the Framework Convention on Tobacco Control *did* proceed chronologically: the DALY metric was first published in 1993, the full results of the GBD study in 1996 (World Bank 1993; Murray and Lopez 1996a). The initial idea for a WHO Treaty was also conceived in 1993 and the World Health Assembly (WHA) adopted resolutions to pursue a legally binding international instrument of tobacco control in 1995 and 1996 (Ruth Roemer, Taylor, and Lariviere 2005; Mackay 2003). And although these became complementary and mutually reinforcing developments, each was motivated by slightly different epistemological, organizational and political concerns. In other words, while these were necessary conditions for the eventual passage of the FCTC, they were not sufficient causes.

I showed how the international tobacco control movement, beginning in the 1960s and 1970s initially framed their grievances in terms of moral outrage and positioned the tobacco industry and its relentless pursuit of profits at the expense of human lives as the movements primary antagonist. The industry's disregard for human life was seen as particularly egregious in light of the emerging epidemiological evidence on the extent of smoking-related disease and growing awareness of tobacco

industry marketing practices in the global South. Of course, a similar moral-outrage frame animated much national-level anti-smoking activity during this same period. However, on its own, the moral-outrage frame did not find resonance within the discursive context of the field of world health at the time, which was focused primarily on infant mortality and child survival. Throughout the 1980s and 1990s the international tobacco control movement underwent considerable professionalization, helped develop epidemiological and economic forecasts of the tobacco threat, and subsequently adopted these forecasts as an important epistemic resource in advocating for international tobacco control. The tobacco threat was re-characterized as a depersonalized impending epidemic with dire anticipated consequences for both human health and national economies. This re-characterization coincided with a change in the discursive context of the field of world health with the transition from "international" to "global health" during the 1990s. With neoliberal economic rationalities ascendant in the field of world health and with the tobacco epidemic now couched in decidedly economic terms, international tobacco control began to gain traction with important transnational organizations such as the WHO and World Bank.

Tobacco at WHO

However, the idea for a FCTC was initially met with skepticism and even hostility at the WHO, especially from the WHO's legal department. It was eventually embraced by Dr. Gro Harlem Brundtland upon her election as Director General of the WHO in 1998 as part of a broader program of WHO reform. Importantly, Brundtland adopted the World Bank's World Development Report 1993: *Investing in Health* as her

"roadmap" to reforming the WHO and was guided by its recommendations for prioritizing health interventions according to a logic of economic rationalization, i.e. DALYs gained for dollars spent. Tobacco control presented an opportunity for the WHO to: 1) demonstrate its technical leadership by mobilizing scientific evidence in support of a legally-binding approach global tobacco control (largely in the form of GBD epidemiological forecasts and economic studies co-sponsored by the World Bank) and 2) re-assert its moral voice regarding health equity, especially in light of the disproportionate burden of tobacco-related illness that was projected to fall on countries of the global South. It also gave the WHO an opportunity to position itself as the lead coordinating body within the field of global health by enacting Article 19 of its constitution and negotiating an unprecedented legally-binding health treaty. Tobacco control became a WHO priority at this point: Brundtland created the Tobacco Free Initiative (TFI) and appointed South African epidemiologist and anti-smoking campaigner Derek Yach as its head. With Brundtland at the helm of the WHO and Yach as head of the TFI, negotiations for the FCTC quickly got underway.

During the treaty-making process a number of developments helped speed its passage: public hearings in advance of treaty negotiations, the creation of an active transnational NGO movement, the deployment of various rhetorical strategies and, crucially, the publication and dissemination of the World Bank's *Curbing the Epidemic* (1999) report during the negotiations. The WHO also helped reignited the moral-outrage frame in the wake of the publication of formerly secret tobacco industry documents released after the Master Settlement Agreement in the United States. This moral-outrage frame helped unify and mobilize renewed efforts among the tobacco

control movement, which at this stage, and with help from the WHO, became a *transnational* or global public health movement.

The World Health Organization's Framework Convention on Tobacco Control (WHO FCTC) was claimed to usher in a new era of global health not just because it was an unprecedented legally binding world health, nor even because of the unique level of international cooperation it inspired. The WHO FCTC was claimed also to represent a "paradigm shift" in the control of diseases caused by harmful and addictive substances because it emphasized *demand* reduction strategies. That is to say, instead of regulating tobacco *products*, the FCTC treaty primarily regulates the behaviors of tobacco-using *people*. In attempting to intervene upon the risky yet still perfectly legal decision to consume tobacco products, then, the FCTC attempts to govern global health through prescribing health-maximizing, risk-minimizing behaviors – i.e. by prescribing the "conduct of conduct" of the global population (Burchell, Gordon, and Miller 1991, 2). And it attempts to do so by correcting what the World Bank identified as a market failure in the decision to smoke, i.e. that smokers neither full know their risks nor bear the costs of their individual consumer choice (1999). In the final empirical chapter I showed how the two central demand reduction strategies of the FCTC are designed to correct for this market failure through education (increasing smokers" knowledge about the risks of smoking) and taxes (increasing the "costs" involved in deciding to smoke). Education campaigns and taxation strategies both seek to alter the costs and benefits of present *and future* smoking in such a way that the decision not to smoke is the only rational course of action. As a result, both of these demand reduction strategies are based on a model of a cost-benefit calculating neoliberal *homo oeconomicus* – the same

figuration of human action that undergirds the DALY metric. As such, the mode of rationality and governmental strategies, seen in the DALY metric and demand reduction strategies of the FCTC respectively, both conform to the neoliberal vision of governance that I argued underpins the transition from international to global health.

EMPIRICAL AND THEORETICAL CONTRIBUTIONS

The emergence of global health has prompted critical reflection across a range of humanistic and social scientific disciplines over the last few years. However, much of this analytic attention has been focused on global dimensions of infectious diseases such as HIV/AIDs, pandemic influenza, SARS, malaria, tuberculosis and, more recently, the Ebola virus. To this valuable literature, this dissertation adds a case study of non-communicable diseases - those caused by tobacco use – and an analysis of the continued significance of the WHO amidst a newly crowded field of global health actors. It also contributes to historical scholarship on global tobacco control and its place in the history of world health. More fundamentally, though, it contributes to interdisciplinary studies of the relationship between science, society and the state, especially as each of these is rearticulated within an increasingly global context. It draws on, and contributes to work in science and technology studies, biopolitics and neoliberalism, social movements and political sociology, and social studies of post-colonialism and globalization. I'd like to suggest that while notions of biopolitics and the politics of life itself have been very fruitfully developed in relation to the biological life sciences, at the microscopic level and with respect to the genome – I think that in the case of global health and tobacco control we see another site in which a politics of

life itself is being articulated But in this case the political work is accomplished through the economic sciences, at the macro level and with respect to the productive potential of the global population.

CONTEMPORARY RESONANCES

Here, I return to the theme of the *economization of life.* Popular public health narratives present a picture of the development and acceptance of the FCTC as dependent largely on the strength of its evidence base and the political will of its key advocates. In contrast, I presented a history of the FCTC treaty that emphasizes its dependence on a new way of quantifying disease, economizing life and governing health that emerged during the 1990s and on the ability of political actors to frame arguments in ways that resonated with those developments. In turn, I argued that this tripartite process is important in understanding the transition from international to global health at the dawn of the 21st century. Some recent examples illustrate the continued relevance of economization in the field of contemporary global health

First, in December 2013, the *Lancet* reported on the findings of a *Lancet* Commission it had sponsored to revisit the case of investment in health and development with a view to achieving health gains by 2035 (Jamison et al. 2013; Norheim 2014). The occasion for the commission was the 20th anniversary of the *1993 World Development Report*: *Investing in Health*. Chaired by a familiar cast of characters – namely Lawrence H. Summers and Dean T Jamison, both of whom played key roles in the 1993 report – the Global Health 2035 report had four key messages: 1) there is an enormous payoff from investing in health 2) a "grand convergence" in health

is achievable within our lifetimes 3) Fiscal policies are a powerful and underused lever for curbing of non-communicable diseases and injuries and 4) Progressive universalism, a pathway to universal health coverage (UHC), is an efficient way to achieve health and financial protection (Jamison et al. 2013, 1898-1899).

Supporting the conclusion that there is an enormous payoff to investing in health, the report concluded that reductions in mortality alone accounted for 11% of recent economic growth in low and middle-income countries. This figure, however, accounted only for the economic benefit of increased productivity. The 2035 report also introduced a *new* metric intended to "capture the value of better health in and of itself" or the so-called "intrinsic value" of life. Termed the "value of additional life-years" (VLYs), this metric built on refinements made to the DALY methodology over successive iterations of the GBD study. After the initial GBD study, whose results were based on estimates of population health in 1990 with projections to 2030, subsequent updates were made by the WHO's Disease Burden Unit for the years 2000, 2001, 2003 and 2004. In 2008, estimates were made based on data from 2004. More recently, the GBD study has carried out in a new institutional home: the Institute for Health Metrics and Evaluation (IMHE), directed by Christopher Murray and funded by Bill Gates. The IMHE published GBD results for 2010 in late 2013 and provided the data on which the *Lancet* Global Health 2035 commission was based.

The value of additional life-years (VLYs) ascribes economic value to increased life expectancy, thereby helping to calculate a country's "full income – the income growth measure in national income accounts plus the VLYs gained in that period. Between 2000 and 2011, about 24% of the growth in full income in low-income and

middle-income countries resulted from VLYs gained" (Jameson et al. 2013, 1898). Put different, the VLY metric takes the DALY methodology to its logical extreme: it incorporates the value of life *itself* more fully into national income accounts. The *economization of life* that I described as accomplished by the DALY metric is accomplished to an even fuller extent with the VLYs metric. It is a commonplace in the field of global health to observe, "what gets measured gets done". This dissertation has shown that *how* one measures, matters, too.

Second, the World Bank's 2015 World Development Report took as its focus *Mind, Society Behavior*, using approaches from behavioral economics, psychology, political science and anthropology to examine how individual-level decisions can be influenced to effect changes in areas ranging from poverty reduction and child development to work productivity, health decision-making and climate change. Importantly in the area of health, tobacco control mass media campaigns served as a prominent example of how to effect individual behavior change and alter social norms at once (World Bank 2015). However, such interventions depend on altering the perceived costs and benefits of particular health decisions in such a way as to render rational *only* the desired course of action. In other words they are underpinned by the same notion of the cost-benefit calculating, risk-minimizing, health-maximizing, neoliberal *homo economicus* that also underpins the demand reduction strategies of the FCTC. In directing interventions towards individual-level decisions about health behaviors, more systematic global health interventions – namely investment in health infrastructure or the provision of clinical services – can recede into the background.

Finally, and as I mentioned in the Introduction to this dissertation, in September 2011, the United Nations General Assembly convened a high-level meeting to address the prevention and control of non-communicable diseases (NCDs). It was only the second time in history that such a meeting had been devoted to a topic related to health, the first having been in response to the HIV/AIDs pandemic a decade earlier. Unlike the earlier meeting, at which the vast majority of the burden of HIV/AIDs was acknowledged to fall on the countries of Sub-Saharan Africa, the 2011 summit presented the threat posed by NCDs as both universal and as a threat to health and economies alike (United Nations General Assembly 2001).

By contrast, the cost of implementing a range of "best buy" interventions to prevent NCDs – like the FCTC - was low and the likely payoffs, high. One report produced by the WHO and World Economic Forum claim: "… the return on this investment [in NCD control] will be many millions of avoided premature deaths…[and] many billions of dollars of additional output" (2011, 3). NCDs were here positioned by the UN, by the WHO and by the WEF as a threat to both the health of the population and as a threat to the economy. Conversely, strategies to combat NCDs are imaged as a solid investment in health and in economic growth with an expected yield of positive future returns.

Just twenty-five earlier, in 1978, the World Health Organization celebrated the thirtieth anniversary of its founding with a conference on primary health care at Alma-Ata in the Soviet Union. There, the famous Alma-Ata declaration was made in which the WHO reaffirmed that "health, which is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity, is a fundamental

human right". "[T]he attainment of the highest possible level of health", the declaration continued, "is a most important world-wide social goal whose realization requires the action of many other social and economic sectors in addition to the health sector" ("Declaration of Alma-Ata"). Famously, the WHO committed itself to the goal of achieving "health for all by the year 2000". In contrast to the UN NCD Declaration in 2013, this earlier declaration positioned health as both a human right and as a "most important world-wide social goal" – one that the resources of the economic sector must be harnessed to support.

In the thirty years from the Alma Ata declaration of 1978 to the 2013 UN NCD Summit the conceptualization of health that underpins world health efforts shifted dramatically from "health for all" to "health as investment". In this dissertation I have tried to explain the epistemological origins and some of the policy consequences of this shift through an analysis of the coproduction of global tobacco control science and global tobacco control policy. In turn, I have argued that the new way of quantifying disease, economizing life and governing health that can be seen in the development of the world's first public health treaty – the World Health Organization's Framework Convention on Tobacco Control – contributes to our understanding of the transition from international to global health at the dawn of the 21st century.

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