THE ASHGATE RESEARCH COMPANION *to the* GLOBALIZATION OF HEALTH

Edited by
TED SCHRECKER

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The Ashgate Research Companion to the Globalization of Health

Edited by

TED SCHRECKER

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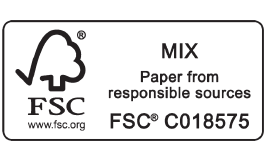

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List of Abbreviations

3TC+d4T+NVP	Lamivudine, stavudine and nevirapine
4-H Club	(Male) homosexuals, Haitians, hemophiliacs and heroin addicts (injecting drug users)
5th H	Heterosexual women
aDNA	Ancient DNA
AIDS	Acquired immune deficiency syndrome
APIs	Active pharmaceutical ingredients
ARENA	Nationalist Republican Alliance [El Salvador]
ARVs	Antiretrovirals
BBC	British Broadcasting Corporation
BCG	Bacille Calmette-Guérin
BCE	Before the Common Era
BMGF	Bill and Melinda Gates Foundation
BRIC	Brazil, Russia, India and China
CAMR	Canada's Access to Medicines Regime
CBC	Canadian Broadcasting Corporation
CAFTA	Central American Free Trade Agreement
CARICOM	Caribbean Community
CARMEN	Set of Actions for the Multifactoral Reduction of Non-Communicable Diseases
CDC	Centers for Disease Control
CFC	Chlorofluorocarbons
CGD	Center for Global Development
CIA	Central Intelligence Agency
CEDAW	Committee to Eliminate All Forms of Discrimination Against Women
CESCR	Committee on Economic, Social and Cultural Rights
CHD	Coronary heart disease
CMH	Commission on Macroeconomics and Health
CO_2	Carbon dioxide
COMESA	Common Market for Eastern and Southern Africa
CRC	Committee on the Rights of the Child
CSDH	Commission on the Social Determinants of Health
CSO	Civil society organizations

CVD	Cardiovascular disease
DAWN	Development Alternatives with Women in a New Era
DC	District of Columbia
DDT	Dichlorodiphenyltrichloroethane
DNA	Deoxyribonucleic acid
DRC60	Historic HIV samples
DR-CAFTA	Central American Free Trade Agreement
ECOSOC	Economic and Social Council (United Nations)
ECOWAS	Economic Community of West African States
EBFs	Extra-budgetary funds
EEA	European Economic Area
EFTA	European Free Trade Association
EPZs	Export Processing Zones
EU	European Union
FAO	Food and Agriculture Organization
FCAC	Convention on Alcohol Control
FCTC	Framework Convention on Tobacco Control
FDC	Fixed dose combination drug
FDI	Foreign direct investment
FEMA	Federal Emergency Management Agency
FTAs	Free trade agreements
FTAA	Free Trade Area of the Americas
G20	Group of Twenty: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, Korea, Turkey, the United Kingdom, the United States of America and European Union
G7	Group of Seven: Canada, France, Germany, Italy, Japan, the United Kingdom and the United States of America
G8	Group of Eight: Canada, France, Germany, Italy, Japan, the United Kingdom, the United States of America and Russia
GAO	Government Accountability Office
GAR	Global Alert and Response
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GAVI	Global Alliance on Vaccines and Immunization
GDP	Gross Domestic Product
GFATM	Global Fund to Fight AIDS, Tuberculosis, and Malaria
GGH	Global governance for health
GHD	Global health diplomacy
GHG	Greenhouse gas
GHI	Global health initiatives
GHTC	Global Health Technologies Coalition
GNI	Gross National Income
H5N1	Influenza A virus subtype; 'bird flu'
H8	Health 8

HIF	Health Impact Fund
HIV	Human immunodeficiency virus
HIV-1	Human immunodeficiency virus Type 1
HLF	High-level Forum
HM	Her Majesty's
HPA	Health Protection Agency
HSS	Health systems strengthening
HSTM	History of Science, Technology, and Medicine
IAC	The Independent Assessment Committee
IBRD	International Bank for Reconstruction and Development
ICESCR	International Covenant on Economic, Social and Cultural Rights
IDA	International Development Association
IFIs	International financial institutions
IFPMA	International Federation of Pharmaceutical Manufacturers and Associations
IFPRI	International Food Policy Research Institute
IGLHRC	International Gay and Lesbian Human Rights Commission
IGO	International Governmental Organizations
IHD	International Health Division
IHR	International Health Regulations
IHRC	Interim Haiti Recovery Commission
ILO	International Labour Office
IMF	International Monetary Fund
IP	Intellectual Property
IPCC	Intergovernmental Panel on Climate Change
IPR	Intellectual Property Rights
IR	International Relations
IT	Information technology
LDC	Least-developed country
LGBT	Lesbian, gay, bisexual and transgender
LIC	Low income country
LMIC	Low- and middle-income countries
LNHO	League of Nations Health Organization
LRCS	League of Red Cross Societies
M group	'Major' group
MDG	Millennium Development Goals
MERCOSUR	Southern Common Market
MFN	Most Favoured Nation Treatment
MIC	Middle-income country
MINUSTAH	*Mission des Nations Unies pour la Stabilisation en Haïti* (United Nations Stabilization Mission in Haiti)
MIPF	Medicine Innovation Prize Fund
MIT	Massachusetts Institute of Technology
MNCH	Maternal, newborn and child health
MPP	Medicines Patent Pool

MS13	Mara Salvatrucha 13
MSF	Médecins sans Frontières
NAFTA	North American Free Trade Agreement
NATO	North Atlantic Treaty Organization
NCD	Non-communicable disease
NGLS	Non-Governmental Liaison Service
NGO	Non-governmental organisation
NIH	National Institutes of Health
NIPH	National Institute of Public Health
NORAD	North American Aerospace Defense Command
NSF	National Service Framework
O_3	Ozone
OECD	Organisation for Economic Co-operation and Development
OIHP	*Office International d'Hygiène Publique*
PAHO	Pan-American Health Organization
PASB	Pan American Sanitary Bureau
PCB	Programme Coordinating Board
PCR	Polymerase chain reaction
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary health care
POP	Persistent organic pollutants
PPPs	Public Private Partnerships
PRSP	Poverty Reduction Strategy Papers
QALYs	Quality-Adjusted Life Years
R&D	Research and development
RF	Rockefeller Foundation
SARS	Severe Acute Respiratory Syndrome
SDH	Social Determinants of Health
STD	Sexually transmitted disease
STI	Sexually transmitted infection
TACs	Trans-national alcohol corporations
TB	Tuberculosis
TFCs	Trans-national food corporations
TNCs	Trans-national corporations
TPI	Tanzanian Pharmaceutical Industries
TRIPS	Trade-Related Aspects of Intellectual Property
TTCs	Trans-national Tobacco Companies
UDHR	Universal Declaration of Human Rights
UK	United Kingdom
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNCTAD	United Nations Conference on Trade and Development
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization

UNFPA	United Nations Population Fund
UNGASS	United Nations General Assembly
UN-HABITAT	United Nations Human Settlements Programme
UNICEF	United Nations Children's Fund (formerly United Nations International Children's Emergency Fund)
UNIDO	United Nations Industrial Development Organization
UNSC	UN Security Council
UPI	United Press International
US	United States
USA	United States of America
USAID	US Agency for International Development
USD	United States dollar
USTR	United States Trade Representative
UV	Ultra Violet
UV-B	Ultra Violet B
WCSDH	World Conference on Social Determinants of Health
WHA	World Health Assembly
WHO	World Health Organization
WTO	World Trade Organization
WW1	World War One; The Great War
WWII	World War Two
ZR59	Historic HIV samples

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Notes on Contributors

Françoise Barten trained as a physician at Nijmegen University, and later obtained postgraduate qualifications in epidemiology at the School of Public Health of Nicaragua; in community health, advanced epidemiology and urban health at the London School of Hygiene and Tropical Medicine; and in Family Medicine at Nijmegen. She has been involved in urban health since 1983, and since 1992 has coordinated an inter-faculty working-group on urban poverty, environment and health at the Radboud University of Nijmegen. She has acted as an adviser to WHO, the United Nations Development Programme, the Dutch Ministry of Development Co-operation, the Minister of Health of El Salvador and as PAHO Adviser on Health Systems and Services in Suriname. She is Co-Chair of the ICSU (International Science Council Unions) Urban Health and Wellbeing Planning Initiative and in November, 2011 became president-elect of the International Society of Urban Health. She has been awarded the title of 'profesora honoraria' (member of academic staff) of the School of Public Health of Nicaragua (1993), at the Faculty of Medicine of the Universidad Mayor de San Simon, Cochabamba (2000) and at the Universidad Nacional Autónoma de Nicaragua in Leon, Nicaragua (2005).

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Sarah Bonazza graduated with a BScH in Biology from Acadia University in 2008. She moved to Toronto and is currently entering her third year of studies in a Bachelor of Science in Pharmacy at the University of Toronto. She has worked as a research assistant for Dr Jillian Kohler and the Initiative for Drug Equity and Access (IDEA) at the University of Toronto since September 2010. Her research focused on the WTO Trade-Related Aspects of Intellectual Property Rights Agreement, compulsory licensing and new innovative methods of increasing access to medicines. She also recently completed an internship in the Medicine Access and Rational Use Cluster within the Essential Medicines and Pharmaceutical Policy Department of the World Health Organization.

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Sharon Friel has been a public health academic since 1992. In January 2010 she was awarded an Australian Research Council Future Fellowship to investigate the interface between health equity, social determinants and climate change, based at the National Centre for Epidemiology and Population Health, The Australian National University (ANU). Prior to this she held a joint appointment as Principal Research Fellow, Department of Epidemiology and Public Health, University College London (UCL) and Fellow at the National Centre for Epidemiology and Population Health, ANU. Between 2005 and 2008 she was the Head of the Scientific Secretariat (UCL) for the World Health Organization's global Commission on Social Determinants of Health. Before moving to Australia, she worked for many years in the Department of Health Promotion, National University of Ireland, Galway. Prof. Friel's research interests involve global health equity; social determinants of health; climate change and health equity, food systems and food security, urbanization and health equity and the socioenvironmental determinants of NCDs.

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Ilona Kickbusch is known throughout the world for her contributions to innovation in public health, health promotion and global health. At Yale University she was

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Sir Michael Marmot has led a research group on health inequalities for the past 35 years. He is Principal Investigator of the Whitehall II Studies of British Civil Servants, investigating explanations for the striking inverse social gradient in morbidity and mortality; leads the English Longitudinal Study of Ageing (ELSA); and is engaged in several international research efforts on the social determinants of health. He was a member of the (UK) Royal Commission on Environmental Pollution for six years and in 2000 was knighted for services to epidemiology and the understanding of health inequalities. He was Chair of the Commission on Social Determinants of Health set up by the World Health Organization in 2005. At the request of the British government, he conducted a review of health inequalities that published its report *Fair Society, Healthy Lives* in February 2010. He was also invited by the Regional Director of WHO/Euro to conduct the European Review of Social Determinants of Health and the Health Divide and was President of the British Medical Association (BMA) 2010–11. Among many other honours, Prof. Marmot is a Foreign Associate Member of the Institute of Medicine (IOM), is a former Vice President of the Academia Europaea, won the Balzan Prize for Epidemiology in 2004, gave the Harveian Oration in 2006 and won the William B. Graham Prize for Health Services Research in 2008.

Anthony J. (Tony) McMichael, medical graduate and epidemiologist, is Professor of Population Health at the ANU, Canberra. During 1994–2001 he was Professor of Epidemiology at the London School of Hygiene and Tropical Medicine. Previous positions have been Chair of Environmental Health at the University of Adelaide (1986–93), and Head of the Diet, Nutrition and Disease research group in Australia's CSIRO Division of Human Nutrition. During 1990–92 he was Chair of the Scientific Council of the International Agency for Research on Cancer, Lyon, France. He is an adviser to the World Health Organization on environment, climate change and health, a long-time contributor to health risk assessment for the UN's Intergovernmental Panel on Climate Change (IPCC). Other positions include Research Associate, Chatham House, London (Global Health Security programme) and Honorary Professor of Climate Change and Health at the University of Copenhagen. He is an elected member of the US National Academy of Science. His most recent books are *Human Frontiers and Disease: Past Patterns, Uncertain Futures* (Cambridge University Press, 2001) and (as senior editor and author) *Climate Change and Human Health*: *Risks and Responses* (Geneva: WHO, 2003).

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campaigns, United Nations conferences, World Social Forums, and meetings of the International Association for the Study of Sexuality, Culture and Society (IASSCS). In 1995–2000 she was awarded a MacArthur Fellowship.

Rick Rowden worked in Washington, DC for nine years with advocacy NGOs engaged on foreign aid and development issues, including as senior policy analyst for the US office of ActionAid (http://www.actionaidusa.org). He has travelled extensively and worked with policy-makers, economists and advocacy NGOs across Africa, Asia, Latin America and Europe to analyse the macro-economic policies of the International Monetary Fund (IMF) and their impact on health spending in developing countries. He is the author of *The Deadly Ideas of Neoliberalism: How the International Monetary Fund Undermined Public Health and the Fight against AIDS* (Zed Books, 2009). Previously, he taught Global Studies at California State University, Monterey Bay and Political Science at Golden Gate University in San Francisco and has worked as an inter-regional adviser with the Globalization and Development Strategies Division of the United Nations Conference on Trade and Development (UNCTAD) in Geneva. At the time of writing he was doing a PhD in Economics at Jawaharlal Nehru University in New Delhi.

When work on this volume began, ***Ted Schrecker*** was an Associate Professor in the Department of Epidemiology and Community Medicine at the University of Ottawa. As it went to press, he was a Clinical Scientist at the Bruyère Research Institute in Ottawa and remained a Principal Scientist at the University of Ottawa's Institute of Population Health. A political scientist by training and an activist by inclination, his research interests lie in the areas of globalization, political economy and issues such as health and human rights at the interface of science, ethics, law and public policy. He was actively involved with the Globalization Knowledge Network of the WHO Commission on Social Determinants of Health, the work of which formed the basis of *Globalization and Health: Pathways, Evidence and Policy*, edited with Ronald Labonté, Corinne Packer and Vivien Runnels (Routledge, 2009). He is also a co-editor of *Global Health* (Sage Library of Health and Social Welfare, 4 volumes, 2011) and the author of numerous journal articles and book chapters on globalization and health.

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Editor's Introduction Globalizing Health Politics in the New Century[1]

Ted Schrecker

Introduction

Health is now firmly established on the global political agenda. With varying degrees of prominence, health issues have been discussed at every summit of the G7/G8 since 2001. As noted in Chapter 11, the value of development assistance for health roughly quadrupled between 1990 and 2007 – a quantitative phenomenon that was accompanied qualitatively by the emergence of important new sources of aid (notably the Bill & Melinda Gates Foundation) and channels for disbursing aid (most notably the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria). The years 2010 and 2011 saw no fewer than four major diplomatic meetings on health or health-related issues: the High-Level Plenary Meeting of the UN General Assembly on the Millennium Development Goals (subsequently MDG Summit) in September 2010; the UN High-Level Meeting on AIDS in June 2011; the UN High-Level Meeting on Non-communicable Diseases (NCDs; subsequently NCD Summit) in September of that year; and the World Conference on Social Determinants of Health in Brazil (subsequently WCSDH) the following month. Although it is important not to confuse flurries of meetings with genuine progress toward improving the health of populations, it is also important not to neglect the significance of such events or the political commitment (even at the level of rhetoric) that they reflect.

[1] I would like to express sincere thanks to Kathleen McGovern, the incredibly well-organized research assistant who made possible the completion of this manuscript during a tumultuous time in my professional life; to Ashgate Publishing for their patience in awaiting this volume; and most especially to all contributors for raising the bar with respect to the social scientific study of global health.

The Millennium Development Goals (MDGs) arose from a UN General Assembly resolution passed in the year 2000. Three of the eight MDGs are specifically concerned with health (child health, maternal health and AIDS and other major communicable diseases); progress toward every one of the seven substantive goals, which relate to poverty and hunger, universal education, gender equality and environmental sustainability, has the potential for important positive impacts on population health. (The eighth goal, developing a global partnership for development, is arguably the most important in terms of long-term reductions in health disparities, yet less amenable to assessments of progress with respect to specific outcomes.) The MDG Summit saw announced commitments of more than USD40 billion in support of a strategy for women's and children's health, widely seen as a neglected dimension of the MDGs, although it is not clear how much of that amount genuinely represents 'new money' rather than a repackaging of existing commitments. This is a recurring problem in the quest for good press on development issues, yet from a long-term perspective the fact that governments feel the need to generate attention to the resources they are committing to development is itself significant.

Rightly or wrongly, the MDGs have become a focus for global health and development policy, perhaps because the targets that were developed under the auspices of the UN Secretary General (United Nations 2001) with respect to at least the first seven goals are in theory amenable to quantitative measurement of progress, although it has been argued that necessary precision is unattainable in practice (Attaran 2005). More fundamentally, the modest nature of many of the goals and targets (halving the *proportion* of people worldwide afflicted by extreme poverty and hunger; improving the living conditions of at least 100 million slum dwellers, when the overall number was projected to increase to 1.4 billion in 2020), against the background of a quadrupling in the value of the world's economic product between 1981 and 2005, led some to characterize them as the 'Minimal Development Goals'. Nevertheless, their very existence was and is significant, and provided the opportunity for concentrating governmental, academic and civil society attention.[2] The MDGs also mean that the international community, again apart from issues of definition, cannot avoid visible engagement with the question of what to do post-2015. Many chapters in this volume contribute to our understanding of how that engagement may unfold.

AIDS became an international issue relatively early in the short history of the epidemic, as reflected by the establishment in 1996 of the Joint United Nations Programme on HIV/AIDS (UNAIDS).[3] As noted in Chapter 8, this happened at

[2] As for instance in the case of the Countdown to 2015 initiative (http://www.countdown2015mnch.org/) that has tracked progress on maternal, newborn and child health. This is a partnership of 23 universities or university faculties, civil society organizations (CSOs), UN agencies, bilateral aid agencies, professional organizations, the World Bank, *The Lancet*, the ubiquitous Bill & Melinda Gates Foundation and NORAD.

[3] For a remarkably unvarnished official history of that organization's first ten years, see Knight (2008).

a time when, in the United States in particular, the spread of HIV infection was coming to be viewed by much of the foreign policy establishment as a threat to security. One of the most prominent good-news stories in global health is the more than tenfold increase between 1998 and the end of 2009 in the number of people living with HIV infection who are receiving antiretroviral therapy (World Health Organization, UNAIDS and UNICEF 2010). The complex political background to that accomplishment includes trans-nationally coordinated civil society activism and direct confrontations with the power of the pharmaceutical industry. The 2011 High-Level Meeting on AIDS adopted a Political Declaration (United Nations General Assembly 2011) – not in any way a binding commitment[4] – that cited the HIV epidemic as a 'global emergency' and an 'unprecedented human catastrophe inflicting immense suffering on countries, communities and families throughout the world' (¶ 7–8), and voiced 'deep concern that funding devoted to HIV and AIDS responses is still not commensurate with the magnitude of the epidemic' (¶ 14). The appropriateness of this concern is underscored by the view, within the United States at least, that the 'ballooning entitlement burden' of AIDS treatment spending in low- and middle-income countries (LMICs) represents a 'state supported international welfare program' that is 'hard to justify on investment grounds' (Over 2008), and by the fact that total donor support from 15 governments, including that of the US, for AIDS treatment and prevention in 2010 dropped by 10 per cent from its 2009 level (Kates, Wexler, Lief, Avila and Gobet 2011).

The MDGs make no specific mention of NCDs, and the NCD Summit (convened by the General Assembly) was an overdue effort to increase the attention devoted to NCDs on the international stage (Beaglehole et al. 2011). Development assistance is an imperfect proxy for the importance attached to an issue by countries that occupy the commanding heights of the world system, although its significance in recipient countries, at least when health systems are involved, is hard to overstate. Although estimates of dollar amounts vary, it is clear that NCDs have received only a fraction of the donor funding directed to communicable diseases like AIDS, or even to maternal, newborn and child health (MNCH), although the contribution to the burden of illness in LMICs is comparable (Nugent and Feigl 2010; Institute for Health Metrics and Evaluation 2011) – and the prevalence of NCDs such as cardiovascular disease, cancer and diabetes is increasing rapidly in most such countries, leading to the phenomenon of a double burden of disease. Explanations include the persistent misconception that NCDs are diseases of affluence (Ezzati et al. 2005) and the lack of widespread political mobilization of the kind that influenced responses to AIDS and, more recently, to MNCH. In advance of the NCD Summit, networks of global health professionals expressed hope for agreement on supporting a limited number of priority interventions in the areas of tobacco control, dietary salt intake, diet and physical activity, alcohol control and multi-

[4] Leaving aside the problematic nature of bindingness in international law – a problem that is especially acute with respect to human rights treaties (see Chapter 14).

drug combinations for people at high risk of cardiovascular disease.[5] Concern was also being expressed that trans-national corporate interests, including the food processing and alcohol industries as well as pharmaceutical firms concerned about proposals to expand access to essential medicines, were shaping the negotiating positions of high-income countries in the pre-conference drafting sessions where the real diplomatic action takes place (Stuckler, Basu and McKee 2011; Cohen 2011).

The WCSDH, organized by WHO, was the outcome of a sequence of events that began in 2005 with WHO's establishment of a Commission on Social Determinants of Health (see Chapter 13). That initiative reflected an accumulation of research evidence that many of the most important influences on health involve the conditions of life and work rather than just the operation of health systems, and are deeply rooted in the structure of social arrangements and the unequal distributions of power and resources that shape those arrangements. Even within national borders, using this insight effectively as the basis for specific policies and interventions faces formidable barriers not only because of the implied (and sometimes explicit) threat to existing economic and political interests, but also because of administrative requirements for coordination among elements of government, many of which are not primarily concerned with health, and, in some cases, the difficulty of mobilizing effective political support. These problems are multiplied at the international level, where no organized constituencies for action on social determinants of health are comparable to (for example) the medically oriented, disease-focused organizations[6] comprising the NCD Alliance that was launched in 2009. In their absence, a tiny unit within the cash-strapped Geneva secretariat of WHO organized the conference while following up in other ways on the Commission's recommendations and a subsequent World Health Assembly resolution of support. It is also interesting to note the disjuncture between the Commission's holistic approach and the behavioural, individualized interventions advocated in advance of the NCD meeting (Beaglehole et al. 2011) – a shopping list indistinguishable from the approaches to health education and promotion fashionable in many high-income countries *circa* 1980.

The preceding discussion can only hint at the institutional complexity of contemporary global health politics. If dissertations have not already been started about these events, their antecedents and significance, they soon will be. Further complexity is introduced by the effects on health on developments such as global environmental change (see Chapter 5) and the financial crises that are, for the moment, an inescapable corollary of global financial integration (Hopkins 2006; Schrecker forthcoming). The point is to demonstrate the close connection of health outcomes to international policy and politics, and also to suggest the theoretical challenges thereby presented for conventional frames of reference in the study of

[5] See in particular Beaglehole et al. (2011) – 44 authors writing in *The Lancet*, a journal whose role as a node in physician-dominated transnational elite networks would merit a chapter in itself if this volume were considerably larger.

[6] World Heart Federation, International Diabetes Federation, Union for International Cancer Control, and International Union against Tuberculosis and Lung Disease.

international relations. The threat of HIV infection to the national security of powerful actors in the international system, once invoked as a justification for concern, was almost certainly overblown; national economies and societies devastated by the epidemic have proved surprisingly resilient. States in sub-Saharan Africa and indeed elsewhere are failing or on the brink of failure for many reasons, but AIDS is not among them. Yet despite the fact that 19 out of every 20 new HIV infections occur in LMICs, the epidemic remains a focus of attention. The continued salience of global health is even more challenging to realist perspectives when other causes of illness or death are involved. David Fidler, a leading student of the global health diplomacy (GHD) exemplified by the four meetings just described, notes:

> Although political and economic connections and interactions between the United States and India are increasing, neither national health nor economic prosperity in the United States depends on whether India controls obesity related diseases, and vice versa. Neither security nor the protection of human rights in the European Union depends on whether countries in sub-Saharan Africa control diseases driven by tropical climatic conditions or local water or air pollution because these disease threats pose no real danger to populations in the European Union. (Fidler 2011, 36)

Familiar invocations of global interconnectedness have clear limits; conversely the presence and persistence of MNCH, NCDs and social determinants of health on international agendas indicates the extent to which health foreign policy (a term considerably more inclusive than GHD) has moved beyond considerations of national interest that are central to the realist perspective on international relations.

How should social scientists approach the study of these developments? In an article decrying the predisposition of international relations scholars toward 'academic sectarianism' in which competing research traditions seldom communicate meaningfully with one another, David Lake asked readers to:

> [I]magine the contributions that we as scholars could make if we devoted our professional and intellectual energies to studying things that matter. Imagine reorganizing our research and professional associations around problems, not approaches. Imagine as well a graduate seminar not organized around research traditions but topics like Global Climate Change, Growth and Development, Economic and Political Inequality, and Genocide and Political Violence. The seminar discussion could then focus on 'what do we know?' rather than 'what are the central tenets of this particular sect?' (Lake 2011, 471)

The eclectic nature of the contributions to this book shows that many investigators concerned with the study of health on a global scale are already doing (or at least trying to do) what Lake recommends. The selection of contributions to this book also reflects the need for trans-disciplinarity in the study of large, complex problems

of the kind to which Lake refers. International relations, political economy (my own home discipline), and even the social sciences as a whole will not have all the relevant answers. This is particularly true of global health, where at least some knowledge of relevant life sciences is indispensable. No one can talk sensibly about AIDS policy and politics for very long without at least a basic understanding of the etiology of HIV infection and the mechanisms of transmission, although social scientists have occasionally tried. So have countless politicians, sounding even sillier. The initial reaction of some readers to several chapters may be: 'This isn't about international relations.' No, it isn't, at least in a sense that will be immediately familiar to readers of *International Studies Quarterly*. That's the point. Their initial reaction may also be: 'This isn't about health, it's about economics and politics.' I and many, although perhaps not all, contributors to this volume view those as in practice inseparable.

History and Perspectives

Historian Monica Green based the book's first chapter on a university course organized along lines of which Lake would almost certainly approve. Grounding her analysis in a thorough understandings of the specifics of communicable disease transmission, she argues first of all for a time frame that is radically longer than many of us are accustomed to, starting about 10,000 years ago (giving new meaning to the Braudelian idea of *la longue durée*) with 'the beginnings of human agriculture and settled society'. She draws on advances in life sciences such as an 'epidemiologically rich genomics' that underscores the importance of animal-human transmission. Green's trenchant analysis of the interplay between biology and culture, and its implications for the response to specific communicable diseases, compares and contrasts responses to leprosy in the nineteenth century and HIV/AIDS in the late twentieth century. Green concludes with three injunctions for global health researchers, each of which also has implications for public health practice in the field: (1) think about more than one disease at a time; (2) historicize everything, a point revisited in different ways in Chapters 2, 9 and 10; (3) take 'global' seriously, drawing on disciplines as disparate as anthropology and genomics. Green's breadth of reading and demonstration of the practical relevance of history are only two of the reasons to envy her students, and to hope that her course is somehow syndicated or otherwise enabled to reach a much larger audience.

In the chapter that follows another historian, Anne-Emanuelle Birn, shortens the time frame somewhat and moves to a finer-grained level of analysis. She situates tropical medicine (still featured in the name of one of the world's leading research institutions, the London School of Hygiene and Tropical Medicine) with reference to a colonial project that exploited labour on a massive scale, but also required some protections for the health of colonists. Domestically, she links the industrial revolution and its immense human costs to the to 'the emergence

of modern public health' – a linkage that has also been emphasized by Simon Szreter (1999) in discussing the relevance of nineteenth century public health politics in England for contemporary LMICs. In the twentieth century these two patterns of thought and practice converged. The Rockefeller Foundation, financed by a fortune made in the industry central to that century's economic history,[7] played a crucial role in that process (at least in the western hemisphere) and shaped the agenda of international health policy and practice, especially in the years preceding World War II, but Birn shows that many other actors were already involved. Readers should consult her other published work (cited in the bibliography) for more extensive detail, and consider contemporary parallels to her conclusion that international health in earlier stages of its development was 'focused on disease control to facilitate conquest and occupation, increase worker productivity in factories, mines and plantations in metropolitan and colonial settings, fend off epidemic unrest, and ensure a smooth and uninterrupted trade system'.

In Chapter 3, political scientist Sara Glasgow examines the internal presumptions of public health discourse on NCDs, focusing on 'the risk mentality'. Risk is a pervasive concept in contemporary social policy and the analysis thereof, with some authors claiming to identify the phenomenon of 'risk society' (Beck 1992). Few have reflected seriously on the politics behind recasting various social processes in terms of risk – for instance, on how the risk society concept was used in the United Kingdom as a basis for attacking the redistributive aims of the welfare state as old-fashioned and outmoded (Giddens 1998, chapter 4). Glasgow, a notable exception, argues persuasively that epidemiologists' focus on risk factors defined in individualized terms has led public health research and practice to neglect structural influences on those behaviours. She proceeds to argue that many social scientists working on global health issues neglect 'the latent political norms that suffuse the supposedly objective science of public health', ignoring the fact that public health cannot be value-free. This is both an overdue critique of epidemiology and an admonition to social scientists studying the politics of health within and across national borders. The contrast between the highly individualized, risk factor-oriented approach guiding the September, 2011 NCDs meeting – WHO's web page (World Health Organization 2011; accessed September 3, 2011) reduced the issues to four diseases (cancer, cardiovascular diseases, chronic obstructive pulmonary disease and diabetes) and four risk factors (tobacco use, unhealthy diet, harmful use of alcohol and physical activity) – and the approach of the Commission on Social Determinants of Health underscores the value of Glasgow's analysis.

Chapter 4 is the only one explicitly organized around the perspective of a single discipline. This was my idea, because anthropologists have been singularly effective in making the connections between macro-level social and economic processes and

[7] An obvious parallel can be drawn with the emergence of the Bill & Melinda Gates Foundation as a major actor in global public health; it can be argued that the products and activities of Standard Oil and Microsoft were of comparable significance in successive waves of industrialization.

health outcomes and experiences at the individual, household and community level. Vinh-Kim Nguyen's chapter combines an anthropologist's scepticism about universals with a succinct thematic overview of critical definitions of, and approaches to, the unavoidably contested concept and phenomenon of globalization.[8] Appropriately, in my view at least, the overview is grounded in political economy and emphasizes globalization's tendency to magnify inequalities. He further inquires into how relations between knowledge and power are reproduced in global health research and practice, in an important complement to Glasgow's analysis that asks 'how the body is located within historical and social relations', and ends with a number of more specific applications of anthropological analysis to such phenomena as therapeutic power ('the power to manage misfortune', in the author's memorable phrase) and commodification of the body. Understandings of how the latter process is inextricably linked with the underlying logics of globalization have been particularly enriched by the work of anthropologists on topics as diverse as the globalization of the clinical trials industry (Petryna 2009) and the emergence of a trans-border trade in human tissues and organs (Scheper-Hughes 2004; 2005).

Issues and Challenges

Any comprehensive inventory of global health issues and challenges that are appropriate topics for social science inquiry would require far more space than is available here. For that reason, some relatively familiar issues like SARS, pandemic influenza and tobacco control are dealt with rather briefly, and in the context of larger questions and debates. The focus is on issues that either have received insufficient attention in the study of global health politics (like global environmental change, and the interface between neo-liberalism and the treatment of health as a security issue) or raise important theoretical or methodological issues (like globalization's influence on social determinants of health at the metropolitan scale, or how the Foucauldian concept of biopolitics can inform understandings of the situation of poor countries and racialized populations in the world economy).

[8] On some academic conventions, at this point in the introduction I should have embarked on a discussion of competing definitions of globalization. I have not done so because in my view the definition as '[a] pattern of transnational economic integration animated by the ideal of creating self-regulating global markets for goods, services, capital, technology, and skills' (Eyoh and Sandbrook 2003) is a sufficient starting point; Chapter 4 provides all necessary elaboration; and the process is in any event understood at a level hard for academics to comprehend by those who have lost their jobs as production relocated to Mexico or China or their homes through forcible eviction in the service of 'higher value uses' that enrich real estate capitalists. Both are among the increasingly commonplace manifestations of the process described by Eyoh and Sandbrook.

The focus of the chapters in this section is also, in some cases, far removed from health outcomes and the conventional subject matter of research on health policy and politics. Authors' concern is rather with the economics and politics of a changing world system, and the consequences of that system's dynamics 'on the ground'. In Chapter 4, Vinh-Kim Nguyen refers to Virchow's vision of a social medicine explicitly concerned with such matters as poverty; I would add Bertolt Brecht's memorable 1938 poem 'A Worker's Speech to a Doctor', part of which reads:

> The pain in our shoulder comes
> You say, from the damp; and this is also the reason
> For the stain on the wall of our flat.
> So tell us:
> Where does the damp come from?

The fundamental message of Virchow, Brecht and the Commission on Social Determinants of Health alike is that health cannot responsibly be understood or considered in isolation from politics and economics – in other words, without asking where the damp comes from and why workers have to live with it while doctors do not. In turn, health outcomes cannot be understood in isolation from global-scale processes like trade and capital mobility, or from the institutions that organize those processes and protect the underlying asymmetries of power and resources.

In Chapter 5, Charmian Bennett and Tony McMichael add a further layer of complexity to the already complicated map of influences on health in a global context. Green demonstrates the importance of understanding the biology of disease-causing organisms; Bennett and McMichael demonstrate the incompleteness of any approach to global health that does not consider the indispensable life support functions provided by the natural environment. They note that 'the form of the requisite research and policy responses can seem far removed from the tidy comfort of reductionist, item-specific research and policy formulation', which ranks as a masterpiece of understatement. Consider the bitter irony they point out that as the international community mobilizes around the MDG of reducing infant and child mortality, most of the 200,000 annual deaths associated with the impacts of climate change occur in children. After a broad overview of major direct and indirect pathways through which global environmental change affects health, they point out the unequal distribution of hazards and benefits: 'those most at risk are often least responsible for the change'. Although they conclude on an optimistic note with a discussion of the win-win character of many measures to reduce greenhouse gas emissions, one wonders whether their optimism is warranted given recent history of intransigence on climate change. The basic analytical point is that global environmental policy (and national policy with global environmental consequences), like trade policy, is relentlessly interest-driven in a world where the distribution of resources and the consequent ability to influence policy is vastly unequal.

Trade policy is, in fact, the subject of the next two chapters. K.S. Mohindra, Raphael Lencucha and Ronald Labonté begin Chapter 6 with a short analytical overview of the mechanisms by which trade liberalization, a key element of globalization, influences health (for a complementary treatment see Blouin, Chopra and van der Hoeven 2009) by way of its effects on individual livelihoods and national opportunities for economic development. They continue with a more detailed investigation of how the emerging regime of WTO treaties and proliferating bilateral and regional trade agreements is affecting the prevalence of NCDs by way of food, tobacco and alcohol. The fact that '[w]hile consumption of these products is often viewed as a lifestyle choice, with public health interventions often targeting individuals, it is at least as much a reflection of corporate production and marketing strategies, government regulation (or lack thereof), and global trade and trade treaty disputes' is not nearly well enough appreciated. Within national policy processes, the individualistic bias of public health discourse and practice identified by Glasgow almost certainly comes into play as well. Despite the qualified initial success of the Framework Convention on Tobacco Control (FCTC), briefly summarized in the chapter, the prospects for an effective framework convention on obesity control, as advocated in a 2011 *Lancet* editorial (*The Lancet* 2011), cannot be considered bright, and indeed the editorial's reference to 'the current tsunami of risk factors' suggests a partial mis-specification of the problem.[9]

Natalia Ovtcharenko and colleagues provide a summary of controversies in the area of global health politics where corporate influence is probably most familiar and pernicious: the conflict between patents and access to essential medicines. The process that resulted in worldwide harmonization of intellectual property protection under the Trade-Related Aspects of Intellectual Property (TRIPS) agreement has been described as one in which '[i]n effect, twelve corporations made public law for the world' (Sell 2003, 96). The subsequent political economy of intellectual property rights and access to medicine is somewhat more complicated, as some middle-income countries begin to develop pharmaceutical industries with the capacity to move beyond generic production (Shadlen 2007). The authors offer an overview of TRIPS and post-TRIPS efforts to expand flexibilities to enable LMICs to address major threats to population health. Especially interesting in terms of what it shows about the hard politics of global health is their account of efforts to offset these flexibilities with 'TRIPs-plus' provisions in bilateral and regional

[9] A cautionary note sounded in the introduction to a special issue of the journal *Global Heart* that appeared at the time of the summit is worth quoting at length: 'The challenges [of NCDs] are much farther upstream and multisectoral than other health challenges; what presents as a health issue has its origins in a variety of determinants, and the solutions must incorporate agriculture, the food and beverage industry, and the built environment among others' (Smith and Ralston 2011). A similar note was sounded in the *European Journal of Cancer*, emphasizing 'the human ecology of cancer control' as 'a hugely challenging area for cancer public policy and one that is frequently neglected, in part because of its intrinsic challenge but more so because it forces a dialogue about political ideology and the prioritization of expenditure and efforts in cancer control' (Sullivan and Purushotham 2011, 2377).

agreements (see also Roffe, Von Braun and Vivas-Eugui 2008; Shaffer and Brenner 2009). They conclude on a positive note, with an account of initiatives including patent pooling and the Health Impact Fund that aim to improve access to medicines within the constraints of the current intellectual property regime, correctly noting that the effectiveness of such initiatives cannot yet be assessed.

Health issues are most readily accommodated in foreign policy agendas when they are framed in terms of national security (Labonté and Gagnon 2010). In Chapter 8, Colleen O'Manique provides a brief history of the post-war 'securitization' of global health, noting the tensions between national security as conventionally defined and the 'human security' paradigm that emerged in the 1990s. She identifies the limits of even this apparently kinder, gentler perspective on security in a world influenced by 'the broader neoliberal project of the past three decades'. These limits are illustrated by the recent history of policy responses to HIV and influenza (O'Manique's description of the political economy of domestic responses to the threat of epidemic influenza in southeast Asia is chilling), and generically by the selective focus of the health and security agenda, which ignores the health of those too marginal, economically or geopolitically, to matter much in a larger frame of reference. (This is my formulation, not O'Manique's.) Despite the language of interconnectedness and shared vulnerability, as in the case of the effects of environmental change described by Bennett and McMichael, not all of 'us' are similarly vulnerable. Against the background of an emerging discourse on global health governance (see Chapter 11), O'Manique concludes that: 'Properly framed, a human security perspective asks the basic questions: Governance for whom? Who lives, and who dies? And who decides?'

This question is taken up with special urgency in the following chapter by Rosalind Petchesky, who blends anthropology and political economy using the Foucauldian concept of biopolitics with specific reference to health in Haiti: the poorest country in the western hemisphere, most recently in the headlines following the earthquake of 2010. Petchesky argues that the savage privation experienced by Haitians, and the consequent threats to their health, must be understood with reference to a long history of colonial exploitation and Haitian resistance. To this she adds both a gender dimension, arguing that issues of sexuality have always represented at least a subtext in the history of the country's exploitation, and a devastating critique of contemporary 'aid' efforts before and after the earthquake. In addition to foregrounding the connection between militarization and sexualization, Petchesky's work reminds all those working in the field of global health that the United States and US-based economic interests have a long history of actively destroying opportunities to lead a healthy life for those standing in their way, or just asking the kinds of questions that recur throughout this book. The inexcusable toll of domestic morbidity and mortality following the US invasion of Iraq (Burnham 2006), and its close connection to the attempt at forced neo-liberalization of the Iraqi economy (Schwartz 2007), is anything but the historical anomaly as which it is regarded by many of our students and younger colleagues.

Françoise Barten, K.S. Mohindra and I end the section on issues and challenges by taking up the question of 'governance for whom?' in a metropolitan frame of

reference, asking how global economic processes affect social determinants of health at a time of rapid urbanization (in those regions of the world not already highly urbanized), increasing economic inequality, and intensified conflicts over metropolitan space and resources between those connected to the global economy on radically different terms. Urban health researchers or epidemiologists studying place and health seldom consider these macro-scale processes, yet their importance is demonstrated by a poignant example drawn from the experience of one of the authors who now works with the government of El Salvador to redesign health and social provision on equitable, rights-based lines.

Responses

Such efforts, mainly on a national or international scale, are the focus of the last set of chapters. Most authors in this section on policy responses write from experience not only as researchers but also as high-level global health politics protagonists. Ilona Kickbusch held numerous senior positions in WHO's European regional office and subsequently in Geneva. Rick Rowden worked for many years with the development policy civil society organization (CSO) ActionAid, specializing in critiques of the International Monetary Fund (IMF)'s approach to development. Sir Michael Marmot, perhaps best known as the leader of the two ground-breaking Whitehall studies of the health of British public servants, subsequently chaired the WHO Commission on Social Determinants of Health; his co-authors, Ruth Bell and Sharon Friel, were members of the small secretariat that worked with Marmot on drafting the Commission's final report. Audrey Chapman, who directed the Science and Human Rights Program of the American Association for the Advancement of Science for 15 years, also participated in drafting the UN Committee on Economic, Social and Cultural Rights' General Comments (key interpretive documents) on both the right to health (General Comment 14) and the right to water (General Comment 15).

Hein and Kickbusch provide a succinct overview of today's complex landscape of global health politics, including a fourfold increase in the value of development assistance for health since 1990; the rise of new categories of institutions such as the Global Fund, trans-national CSOs and networks such as Countdown 2015 that link CSOs with UN agencies and other institutions; and the emergence of new players in old categories. The Bill & Melinda Gates Foundation is the most obvious member of the latter group; as noted earlier there is nothing new about influential foundations based on one private fortune. One of the more interesting manifestations of this new organizational complexity was establishment of the H8 or Health 8 in 2007 in an effort to accelerate progress toward the health-related MDGs; it comprises senior officials of four UN agencies including WHO; the World Bank; the Global Fund; Global Alliance for Vaccines and Immunization (GAVI); and the Gates Foundation. Among the authors' observations, the fact that 'health is one of the largest industries worldwide' perhaps deserves special attention; this

point is likely to be more familiar to researchers who work on domestic health policy issues than to those whose focus is primarily international. On a brighter note, they suggest that the emerging organizational complexity may represent the emergence of new understandings of global democracy, meaning 'more than an equal representation of governments in international institutions', and global citizenship.

Rick Rowden argues that advocacy in support of global health must expand its frame of reference to include a critique of current Washington consensus models of development policy, including a reconsideration of the value of interventionist (neoclassical economists would say protectionist) industrial policies, of a kind today's high-income countries routinely adopted at earlier stages of their journey to prosperity. He is especially critical of the equation of poverty reduction with development, and of the IMF's insistence on low inflation and other forms of macroeconomic orthodoxy, regardless of their well-established human costs. This is not a new critique; as early as 1987 a landmark UNICEF report documented the destructive costs of 'structural adjustment' policies promoted by the IMF as the price of debt restructuring, with specific reference to the health and well-being of children (Cornia, Jolly and Stewart, eds 1987). What is new, and imperative, is Rowden's insistence that those whose advocacy efforts have heretofore been focused on the health sector, as it is now described, broaden their efforts to situate health in the context of alternative trajectories for economic development – with a special focus on how policies of countries like the United States and of the international financial institutions influence those trajectories and the distribution of the benefits of growth.

A similar message, although stated in different terms, is conveyed by Bell and colleagues in their description of the genesis of the CSDH and responses to its findings. They situate the Commission's work as, in many respects, a return to the 1978 Alma Ata commitment to Health for All in the year 2000, which 'foundered during the 1980s in an era of politically motivated market liberalisation', and summarize the report's findings with special emphasis on the ubiquity of socioeconomic gradients in health and their origins in social processes and political choices.[10] They describe as an 'extraordinary synchronicity' the fact that the Commission's report was released in August 2008, two months before a serious global financial crisis demonstrated the perils of unregulated economic interconnectedness need for reforming the rules that govern the world economic order. The next-to-last section of their chapter is a participants' account of how the Commission's report was received by governments, notably those of the United Kingdom and the European Union, but also those of some LMICs. Even within national borders, the 'whole of government approach' that the Commission correctly identified as essential to integrating social determinants of health into public policy is difficult; the difficulties multiply internationally, for reasons of political economy (some of which are suggested throughout the Issues and Challenges section of the

[10] Those who have not read the Commission's full report, readily available on-line, are strongly encouraged to do so.

book) as well as reasons of organizational complexity described in Chapter 11. Bell and colleagues were 'optimistic about the prospects for the initiatives … that are driving the social determinants of health agenda forward'; as noted in the Coda, events at the World Conference on Social Determinants of Health might have been read as dampening that optimism somewhat.

In the final substantive chapter, Chapman points out that a range of human rights instruments, many of them binding as a matter of international law on states that have ratified them, address access to health care and social determinants of health. After an overview of the relevant international legal framework, she summarizes current interpretations of the right to health, which encompass far more than just access to health care. She then describes the limitations of the international human rights framework, including the fact that 'the narrow and sometimes excessively legalistic understanding of the right to health held by many in the human rights community does not accord sufficient importance to the role of the social determinants of health' but also the 'relative powerlessness of human rights institutions' as compared, for instance, with the World Bank and the WTO regime. She concludes by citing the value of a human rights approach to health as both a normative framework and a source of political mobilization, 'in a world in which there are few countervailing normative and policy approaches to the dominant neo-liberal ideology underpinning globalization'. My own view is that the importance of this point cannot be overstated, in the context of contemporary political discourses in which it is sometimes difficult even to imagine what historical sociologist Margaret Somers (2008), after Arendt, has called 'the right to have rights' independent of the marketplace.

Resources and Institutions: Questions for the Future

Without writing another book, it is possible to identify two general sets of questions or challenges for health in a globalizing world, and for social scientists working in the area.

The first involves resources, first of all for health systems although as the Commission on Social Determinants of Health and social epidemiologists remind us they are only part of the picture. One study estimated that USD112 billion to USD251 billion more would be needed between 2009 and 2015 simply to ensure that health systems in low-income countries were capable of meeting the health-related MDGs (Taskforce on Innovative International Financing 2009). Additional development assistance was identified as a priority, but so, too, was mobilizing more financing from domestic sources. Many sub-Saharan African countries (which accounted for 33 of the 49 countries in the study just cited) were, as of 2010, far from meeting a commitment made in 2001 by member states of the African Union to increase public spending on health to 15 per cent of general government spending. In fact, a meeting of African Union finance ministers repudiated the so-called Abuja Declaration in March 2010, only to see it reaffirmed by heads of

government (as before, without any target dates) at the African Union summit in July of that year. The protection of health, especially the health of the poor, is merely one competitor among many for policy attention and state resources, just as it is in wealthier countries, and the politics of resource allocation for health and health-related social protection in LMICs remains understudied.

A focus on development assistance should not divert attention from other aspects of the world economy that drain resources from health and development in LMICs. One of the most important of these is capital flight, in which the wealthy and well-connected shift assets out of economies where they are desperately needed for investment in health and development in order to improve their returns and avoid taxation, regulation or the prospect of devaluation (see generally Schrecker forthcoming). As just one illustration of the importance of capital flight, in 2011 academic economist Léonce Ndikumana (a former senior researcher with the African Development Bank and the United Nations Economic Commission for Africa) and colleague James Boyce published the culmination of many years' research on capital flight from sub-Saharan Africa (Ndikumana and Boyce 2011). Their assessment, based on a restrictive definition of capital flight that includes only illicit flows, was that between 1970 and 2008 the value of flight capital from the region – plus imputed interest, on the assumption that the money shifted out of the region was earning at least a small rate of return in its offshore home – was $944 billion, or roughly the value of the region's entire economic product in 2008. Another perspective is provided by the observation that the annual value of capital flight from sub-Saharan Africa between 2000 and 2008 was twice the amount of additional aid pledged to the region, albeit not delivered, by the G7 at the Gleneagles summit in 2005 (Ndikumana 2010). External debt remains a debilitating constraint on public policy in many LMICs despite successive debt relief initiatives and has long been recognized as a consequence, in part, of the ease with which deregulated financial markets facilitate capital flight (Naylor 1987; Schrecker 2009b). The problem of resources for health and development, in other words, is very much a problem of the unequal distribution of power and opportunities within the world system, and the replication of those inequalities within national borders.

Resources are not a problem only for LMICs, of course. The situation of WHO, functioning on a frozen core budget and therefore highly dependent on discretionary contributions from donors, is a case in point. In an earlier commentary, contributor Ilona Kickbusch and a colleague described that fact that the Gates Foundation now spends more each year on health than the amount available for WHO's core operations as 'a scandal of global health governance' in which WHO member states 'are giving up their major instrument to drive health policy and ensure health security' (Kickbusch and Payne 2004, 10–11). We must recall, however, that the instrument was given up voluntarily by national governments with other priorities – as Hein and Kickbusch remind us, 'in a world with numerous centres of power, many of which are not committed to improving global health governance'.

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The Value of Historical Perspective[1]

Monica H. Green

This chapter looks at the history of global health not as an interdisciplinary field of academic study or an aspect of public policy, but rather as the history of health globally.[2] What is to be gained from such a massively encompassing perspective? What does the history of health – or rather, the history of threats to health and those health-seeking behaviours meant to restore it – offer researchers and policy analysts who are faced in the most urgent way with present ill-health and future threats of disease? And what, especially, is to be gained from going into 'deep history' rather than simply the past decade or century?

I argue that it offers a sense of scope and a sense of scale, a sense that we are part of a larger narrative whose trajectory we can only partially direct. The past is and will always be with us. Pathogens themselves have histories – coded in their very DNA – and many aspects of disease as it manifests itself in the present-day world have deep roots. Where diseases are found, in which populations, at what levels of prevalence, are factors of the current epidemiological landscape that have been influenced, in many cases, not simply by the accidents of birth or the behavioural choices of living human populations, but by the patterns of migration and cultural developments of humankind over many millennia. What we see in our present-day world (as rapidly changing as it is) are the epiphenomena of evolutionary forces,

[1] Early research for the chapter was done in spring 2010 while holding fellowships from the American Council of Learned Societies and All Souls College, Oxford. Neither institution bears any responsibility for the content or opinions expressed in this chapter, although grateful acknowledgement is made for the opportunity afforded to read broadly in the scientific literature. My thanks to the following for valuable conversations that have contributed to my thinking on these important questions: Tabarik Ahmad, Volker Benkert, Jane Buikstra, Ana Magdalena Hurtado, Matthew Parry, Rachel Scott, Anne C. Stone, James A. L. Webb, Jr. and Martha Wetzel and to Ted Schrecker, for his invitation to write this chapter and wise counsel in revising it.

[2] For historical overviews of 'global health' in the public health and policy sense, see Brown, Cueto and Fee 2006 and Birn 2009. For a thoughtful contemplation on the implications of the concept 'global' in 'global health' see Fassin 2009.

human culture and sheer accident. Recognizing that we are simply standing at the current peak of an ever-changing landscape in our relations with the microbial world, our habitats and our own genetic makeup is critical to developing realistic agendas for what we can and might dream to do in terms of global public health interventions.

The reasons for 'going global' in this analysis are simple: as a species we have been global for millennia, and the diseases to be examined here are (and in many cases, have long been) global in their dissemination. But why 'think deep' when much of the international policy and nearly all of the biomedical science driving global health initiatives is itself only a few decades (or even a few years) old? The World Health Organization Fact Sheets for most diseases jump in their narratives from first presentation of the disease to modern therapies: for example, the 'facts' for leprosy jump from the first known written reference to leprosy *c.*600 BCE to the discovery in 1940 of dapsone (the mainstay of the multi-drug therapy used for the disease worldwide) (WHO 2010c).[3] Why do we need to know more than the recent narrative, the point at which we could *do something* about disease?

That question presupposes, first of all, that humans have never done anything about disease or ill-health prior to the invention of modern medicine. That is a patently false assumption; indeed, evolutionary biologists are now asking whether health interventions should be counted among those activities that contributed to hominin development.[4] The second, and more important, reason is that diseases have histories far beyond the awareness of modern bioscience. Every disease is a veritable iceberg of history, only the peak of which we can see in our modern scientific and biomedical perceptions.

Consider the case of HIV/AIDS. Typical histories of the disease will start their chronological clock in 1981, when the first case reports were published in the United States *Weekly Morbidity and Mortality Report* linking a cluster of symptoms found in young adult males in California. The narrative then builds from those early days of epidemiological confusion and public panic to identification of the causative organism in 1983–84, the development of biomedical therapies and public health initiatives in the mid to late 1980s, and so on (for example, Fauci 2008). Yet we know now that HIV's biological and social history in humans is much longer than that, going back several more decades into the early twentieth century and connecting to patterns of hunting, urbanization, labour migration and changing marital, sexual, and probably medical practices in western Africa. That narrative is also geographically broader than the axes of Los Angeles, San Francisco, New York, Haiti and Western Europe that seemed to be epicentres of the disease in early epidemiological conceptions. This deeper historical perspective has been critical not simply to our understanding of the disease as a zoönosis of African origin and considerable genetic diversity (Sharp and Hahn 2008; Worobey et al.

[3] Since 1995, the triple regimen for leprosy (dapsone, rifampicin and clofazimine) has been made available for free to all diagnosed leprosy cases throughout the world.

[4] In-progress research of Kim Hill and Ana Magdalena Hurtado, Arizona State University.

2008),[5] but also for our understanding of human social and sexual practices and migratory activities throughout much of the world. In other words, the post-1981 narrative is not wrong, but it is incomplete in ways that, sadly, help explain why the pandemic was at many levels contained in North America and Western Europe by the late 1990s but, until incidence levelled out in 2010, continued to explode in other parts of the world and continued, as of 2011, to devastate sub-Saharan Africa. The metaphor of the iceberg was, in fact, already used by HIV/AIDS researchers by 1985 to warn of the potential epidemiological breadth of the disease's spread beyond the visible group of extremely ill patients who were already presenting to clinicians (NIH 1985; Fauci 1986). The metaphor works equally well to convey the chronological depth of disease histories. HIV/AIDS's 'iceberg' is relatively shallow in chronological terms: its worldwide presence today owes much more to its emergence in the period of jet travel and its own rapidly evolving nature than to its age as a pathogen in humans. Other diseases, in contrast, have 'icebergs' that extend back to our origins as a species. Seeing how huge a historical iceberg lies below the surface of disease entities as they manifest themselves in the present day is humbling, but understanding the depth of the 'roots' of disease may transform our sense of the challenge before us.

A Framework for Analysis

The present chapter summarizes the perspectives on the global history of health that I, a historian of medicine, and a colleague, Rachel Scott, a bioarchaeologist, have developed in a course we teach at Arizona State University. The course is designed to offer a framework for thinking about the global history of human health by using two analytical approaches simultaneously. First, we frame the course chronologically and conceptually around the notion of the three epidemiological transitions: major shifts in the types and prevalence of diseases due to changes in human social and cultural practices. This is a concept formulated by the medical anthropologist and epidemiologist George Armelagos and a series of colleagues over the course of the past two decades (Armelagos 1990; Barrett et al. 1998; Armelagos et al. 2005; Harper and Armelagos 2010). Building on the concept of a single epidemiological transition first proposed in 1971 (for distinctly different purposes) by Abdel R. Omran (Omran 1971; cf. Weisz and Olszynko-Gryn 2010), Armelagos suggests that the modern history of the human species can be seen as turning on three key points of transition between the late Pleistocene and

[5] Worobey et al. 2008 present evidence that although '[a] viral sequence from 1959 (ZR59) is the oldest known HIV-1 infection', they date 'the most recent common ancestor of the M group to near the beginning of the twentieth century. The sizeable genetic distance between DRC60 and ZR59 directly demonstrates that diversification of HIV-1 in west-central Africa occurred long before the recognized AIDS pandemic'. See also Rambaut et al. 2004; Keele et al. 2006 and Pepin 2011.

the present day. Second, to fill in that broad chronological canvas we chose eight 'paradigmatic diseases': infectious diseases whose biological character, historical accidents and evidentiary records made them exemplary of larger trends in human history. In some cases, these are diseases distinctive for the high mortality or morbidity they have caused (tuberculosis (TB), malaria, smallpox, cholera and, perhaps the greatest killer of all, plague); in others, for the larger effects they have had on social practices and institutions, and the development of notions of stigma (leprosy, syphilis and HIV/AIDS). Wherever they originated, these eight diseases sooner or later impacted all inhabited parts of the globe. Table 1.1 summarizes the key characteristics and chronologies of each of them. With the exception of HIV/AIDS, all of these diseases have woven in and out of the narrative of human history multiple times. And with the exception of smallpox, all are still with us. Together, therefore, the framework of the epidemiological transitions and the *dramatis personae* of our eight diseases allow us to encompass the entire global history of human health.

Framing Human Time and Culture

The first epidemiological transition is identified with the beginnings of human agriculture and settled society, starting around 10,000 years ago. Humans were subject to diseases before the transition to agriculture, of course. In tracking *Homo sapiens sapiens* out of Africa and into Asia, the Pacific and the western hemisphere, Armelagos uses the concepts of 'heirloom' diseases, those passed down from generation to generation of humans (and in some cases, earlier hominins), and 'souvenir' diseases, those acquired on travels into new ecological niches. The transition to agricultural, settled society obviously happened at different times to different human populations – or not at all, in the case of those hunter-gatherer societies that have kept their traditional ways of living up to the modern period.[6] The commonality for settled populations, of course, was the ability for diseases to flourish in human hosts in ways they had never done before because (a) changes in nutrition due to reliance on domesticated crops probably lessened populations' resistance to infectious diseases; (b) sedentism meant not simply more closely confined living arrangements, but also greater transmission of those diseases that were acquired because people lived in their own waste instead of migrating seasonally to new, clean grounds; and (c) the domestication of animals allowed the transmission of zoönoses with a new regularity.

[6] James L.A. Webb, Jr. has pointed out to me that, in the case of malaria, this 'first' epidemiological transition needs to be problematized even further (personal communication, 11 March 2011). Seasonal settlement, as opposed to permanent, year-round settlement, developed many thousands of years earlier and played a crucial role in some humans' development of genetic immunity to vivax malaria. For details, see Webb 2009.

Table 1.1 Eight paradigmatic infectious diseases

Disease	Causative organism	Earliest impact on humans	Discovery of causative organism	Genome sequenced[a]	Development of effective treatment (biomedical)[b]	Documented drug resistance
Tuberculosis (TB)	*Mycobacterium tuberculosis*	Palaeolithic	1882	1998	• streptomycin: 1945 • isoniazid: 1951	yes
Malaria	*Plasmodium falciparum*, *vivax*, etc.	mid-Pleistocene (*P. falciparum* more recently)	1880	2002	• cinchona/quinine: 1600s • chloroquine: 1946 • artemisinin: 1971	yes
Smallpox	*Variola major* and *minor* (viral)	Neolithic	1939	1994	• inoculation (variolation): by the 1600s • vaccination: 1796	N/A
Leprosy (Hansen's disease)	*Mycobacterium leprae*	at least 2000 BCE[c]	1873	2001	1940s–60s: combo of dapsone, rifampicin, and clofazimine	yes[d]
Plague	*Yersinia pestis*	6th century CE?	1894	2001	antibiotics (streptomycin, gentamycin, cloramphenicol, tetracycline)	yes
Syphilis	*Treponema pallidum pallidum*	??[e]	1905	1998	• 1907: Salvarsan • 1943: penicillin	yes
Cholera	*Vibrio cholerae*	?? (1st pandemic began 1817)	1883	2000	1830s-early 1900s: intravenous fluid and salt replacement	yes
HIV/AIDS	Human retrovirus HIV-1 and -2	1920s?	1983	1985	• AZT: 1987 • HAART: 1997	yes

Notes

[a] Data on genome sequencing are based on the following publications: TB: Cole et al. 1998; Malaria: Gardner et al. 2002; Smallpox: Massung et al. 1994; Leprosy: Cole et al. 2001; Plague: Parkhill et al. 2001; Syphilis: Fraser et al. 1998; Cholera: Heidelberg et al. 2000; HIV/AIDS: see Gallo and Montagnier 1987 for a list of the four simultaneous sequencings of HIV completed in 1985.

[b] Dates refer to the commercial availability of these therapies, where applicable.

[c] This is the date of the oldest currently known sample of human remains showing infection with *Mycobacterium leprae*. However, genomics studies suggest the immense antiquity of *M. leprae* and it remains to be determined whether it evolved to its present state in hominin populations or was more recently transferred as a zoonosis. See text for discussion.

[d] Although resistance to dapsone alone was documented in the 1950s followed by other drugs in the 1990s (see, for example, Cambau et al. 1997), the WHO still claims that the combined therapy of dapsone, rifampcin and clofazimine, has not yet elicited antibiotic resistance (WHO 2010c).

[e] See discussion in text.

Most of the history of human populations from the beginnings of sedentism up through the nineteenth century falls into this long phase of the First Epidemiological Transition. Although both malaria (or at least certain kinds of it) and tuberculosis infections afflicted human populations long before the transition to agriculture, both diseases flourished with new effectiveness in these larger, settled populations. As large urban societies developed beginning in the third millennium BCE, we find our first evidence of the new 'crowd' disease of smallpox. Leprosy and plague both seem (in our current understanding) to have their origins in Asia, and become the emblematic 'medieval' diseases because of the unification of Eurasia by regularized trade that tied the urban cultures of East and Southeast Asia to those of the Middle East and, increasingly, Western Europe and sub-Saharan Africa. With the Columbian Exchange and the move into the colonial empires, we get not simply the well-studied spread of smallpox into the New World, but apparently the first global impact of syphilis, leprosy and cholera, whose pre-global histories are still not well understood. Even malaria is likely to have become 'global' only in this period.[7]

The second epidemiological transition (essentially identical to the one Omran first sketched) is the shift between the nineteenth and mid-twentieth centuries from infectious diseases as being the leading causes of death to chronic or 'lifestyle' diseases: heart disease, diabetes, cancer and so on. (Figure 1.1 gives a summary of these shifts in Chile.) An important part of our narrative is that almost all the 'old' infectious diseases became far worse in their impact before the Second Transition. They not only affected naïve indigenous populations for the first time (smallpox, leprosy and probably new strains of TB), but even the European metropoles were more grievously afflicted than they had ever been in the past, both by the frequent waves of the 'emergent' disease of cholera and by rising incidence of TB. (Plague had disappeared from Western Europe by 1722 and leprosy had retracted to Europe's northern periphery.) Even smallpox, despite dissemination of inoculation techniques from the early eighteenth century and then at century's end Jennerian vaccination, increased its spread in this period.

Jennerian vaccination did eventually lead to containment of smallpox in many parts of the industrializing world by the late nineteenth century, though the most important element in the arrest of infectious disease was surely the sanitation

[7] The literature on smallpox in the New World is extensive; for works that connect most directly with the analysis offered here, see Alden and Miller 1987; Li et al. 2007; McCaa 1995; and Riley 2010. The relation of syphilis (*Treponema pallidum pallidum*) to the other treponematoses (yaws, bejel and pinta), and specifically the question whether syphilis evolved in the Old World or New, is still contested. Three recent entries into the debate are de Melo 2010; Cole and Waldron 2011; and Harper et al. 2012. On leprosy, I know of no work that has yet reconstructed the role of the Columbian Exchange, though there is consensus that its presence in the New World came only after contact; see Truman 2011. On cholera, see Hamlin 2009. The two mosquito-transmitted diseases, yellow fever and malaria, have similar trajectories in the colonial period; see most recently McNeill 2010. The spread of all these diseases into Oceania is less well-studied; on malaria, see Buckley 2006, which demonstrates that it did not spread east of Vanuatu.

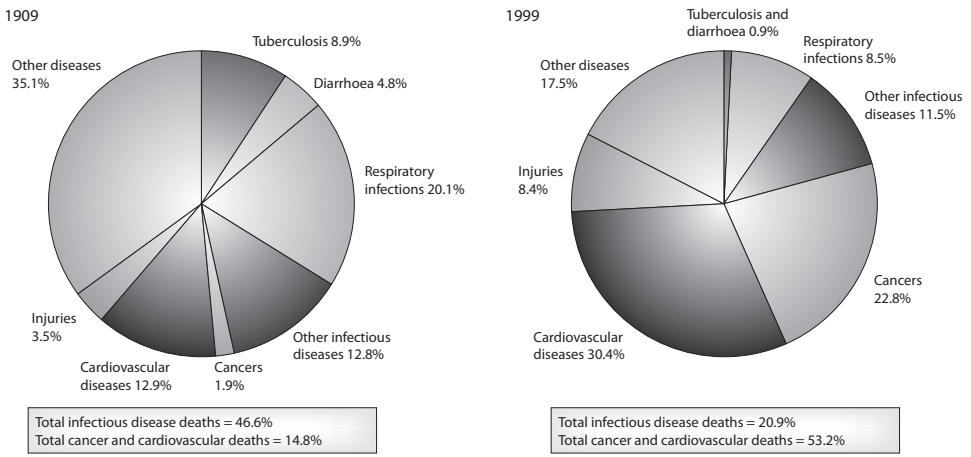

Figure 1.1 Proportions of total deaths from major cause-of-death categories, 1909 and 1999, in Chile.

Source: Reprinted by permission from Macmillan Publishers Ltd: R.A. Weiss and A.J. McMichael, (2004), 'Social and environmental risk factors in the emergence of infectious diseases', *Nature Medicine* 10, S70–S76.

measures implemented by western governments in the late nineteenth and early twentieth centuries. Germ theory (a product of the late nineteenth century) was more important in aiding those sanitation efforts than, at least initially, in providing effective medicines, although one should not discount the role of biomedical techniques to test for disease, which played a vital role in developing public health policies.[8] Like the first epidemiological transition, the second came to different societies at different times, and many of the world's societies have still not experienced a period where controlled systems of water supply, waste disposal and housing reform – along with the benefits gained by widespread vaccination practices and (to a lesser degree) the impact of antibiotics and other therapeutic interventions – have brought about a shift to 'lifestyle' and genetic diseases as major causes of death.

The third epidemiological transition, as defined by Armelagos and his colleagues, has followed the second very quickly, and we are in the midst of it now. This period is characterized by new, emerging infectious diseases (HIV/

[8] No single study summarizes current historical understandings of the impact of germ theory in relationship to the late nineteenth- and twentieth-century health transition in the industrialized world. In general, there is consensus that 'germ theory' was no single thing: Tomes and Warner 1997 warn against using germ theory 'as an all-purpose *deus ex machina*' (8). See also Tomes 1998; Ward and Warren 2007; Harris 2004; and the works cited in Condrau and Worboys 2009. For case studies of one of the infectious diseases that saw the most immediate impact from laboratory science, diphtheria, see Hammonds 1999; and Condran 2008.

AIDS, Ebola, SARS, avian flu and so on); re-emerging infectious diseases (most especially TB and malaria, heightened in their lethality by HIV co-infection); and the development of widespread antibiotic resistance by almost all the major pathogens. The third epidemiological transition has six principal contributing factors: ecological changes; human demographics and behaviour; increasingly rapid international travel and commerce; technology and industry; microbial adaptation and change; and the breakdown in public health measures that had been so instrumental in the Second Transition.

A Multi-Disciplinary Approach: Taking the Materiality of Disease Seriously

The theory of the three epidemiological transitions is useful to us primarily as a way of identifying the structural commonalities of various human cultures and disease environments across time and space. But what really makes our narrative 'global' is that each of our paradigmatic diseases does indeed have a global history. In contrast to most approaches to the history of medicine, where historians (myself included) have largely eschewed what we call 'retrospective diagnosis', in this course we start from the premise that we know what the disease is biologically and that its biological character is essential to our understanding of its historical impact. In this respect, the diseases (or rather the pathogens that cause them) function as 'historical actors' – not rational ones, of course, but ones with distinctive 'personalities' that help us understand the timing, environmental circumstances and material phenomena (including visible symptoms) that humans would have faced in dealing with them. In fact, we ourselves reject traditional types of retrospective diagnosis for the same reasons as most historians of medicine: because they have for the most part been based on the interpretation of *words* used to describe disease in written records from the past (Arrizabalaga 2002). Those words are reflective less of some permanent physical reality than of the intellectual concepts of disease categorization prevailing at a given historical moment in a particular cultural context. Hence, retrospective diagnosis has often been little more than a parlour game concerned to get a diagnosis of past disease 'right' within the categories used by biomedicine at the moment the historian is writing.

Rather, we approach our eight paradigmatic diseases from a belief in their biological reality and from a belief that there are scientific methods that can assess that reality in the past, including evolutionary change over time, in ways that obviate reliance on verbal traces alone. The genomics revolution is one of the developments that allows us to think differently now about the history of disease. The first virus was sequenced in 1975, followed in 1995 by the first complete

sequencing of an independently living pathogen.[9] Most of the pathogens known to afflict humans, including all eight of our paradigmatic diseases, have now been sequenced (see Table 1.1). In every case, a whole new world of genomic investigation has opened up owing to the development of polymerase chain reaction (PCR), which allows continual multiplication of genetic material, and to high-throughput computerization, which allows analysis of the resulting massive quantities of data. Indeed, such confidence has developed in these genetic reconstructions of pathogen evolution that new genomics studies are announced as definitive 'histories' of disease (for example, Dixon 2009 and Wade 2010). We obviously take such pronouncements with a grain of salt. We introduce each disease by surveying the latest findings not simply on its transmission, symptomatology, present-day incidence and therapeutic interventions, but also with the latest findings on its genetic character and evolutionary history. We do not assume that the pathogens are static and unchanging in their virulence. Nor do we assume that, in such a rapidly developing field like genomics, new revelations cannot occur on a weekly basis and overturn our assumptions (hence the grain of salt).

The genomics work is occurring on two levels. Studies employing modern samples of pathogens are using the knowledge of the genome to reconstruct evolutionary histories of the microorganisms' development, including their genealogical relationship to different clades which, variously, are either not pathogenic or affect only non-human animal species. The second type of work focuses on the retrieval and analysis of old ('ancient') genetic material (aDNA). This work has several challenges, including the fragmentary and degraded state of the samples, and problems of contamination (Donoghue and Spigelman 2006; Wilbur and Stone 2012). *Mycobacterium tuberculosis*, the causative organism of TB, has produced the most reliable results thus far, in part due to the thick waxy cell wall that helps preserve it (Stone et al. 2009). aDNA has also been retrieved for *Yersinia pestis*, the causative agent of bubonic and pneumonic plague. Even though early results relating to the medieval and early modern European pandemic provoked controversy and claims that the results could not be replicated, the tide has turned in that field too, now that aDNA techniques have been supplemented by assays that can determine the presence of protein antigens specific to the plague pathogen. Indeed, it is now claimed that the full genomic sequence of the strain of *Y. pestis* that caused the Black Death has been sequenced (Bos et al. 2011).[10]

As revelatory as this aDNA work is, all it can do is demonstrate the presence of the pathogen in human remains. We cannot even claim so much as 'cause of death' since pathogens do not always kill. As Louis Pasteur purportedly said, 'The microbe is nothing; the terrain, everything' (as quoted in Farmer 1999, 37). The terrain of the human body is what we then explore with each disease: asking

[9] *Haemophilus influenzae*, one of several opportunistic pathogens that can cause pneumonia and other conditions.

[10] The earliest study in this inventive new line of work on *Y. pestis* was Drancourt et al. 1998. Most recently, see Haensch et al. 2010; Tran et al. 2011 and Little 2011. For work on leprosy aDNA, see Watson et al. 2009.

when this organism's evolutionary path first intersected with *Homo sapiens sapiens*, what traces it has left on human remains, and what technological, social, political and intellectual reactions it has elicited from its unwitting or unwilling hosts. The first two questions are addressed through the reconstructive methodologies of palaeopathology; the third through bioarchaeology and the narrative possibilities of history.

Palaeopathology allows us to examine historical populations afflicted by those diseases that leave distinctive traces on the skeleton or teeth.[11] Although the effects of malaria on the human skeleton are largely seen only through generalized lesions indicative of anemia (which can have any number of different causes) while other diseases (smallpox, plague and cholera) kill or resolve so quickly or surreptitiously as to leave no distinctive traces on the hard tissues of the body, other diseases – including tuberculosis, leprosy and syphilis – can scar the bones in recognizable ways. It is therefore from palaeopathological, as well as ancient DNA studies, that we reconstruct the effects of TB among pre-contact early Amerindian groups, and leprosy in India in remains as old as 2000 BCE (Klaus 2010; Robbins et al. 2009).[12]

Older palaeopathological studies were often content to 'diagnose' individual remains, often examined with basic macroscopic techniques, as suffering from this or that infectious disease or as having been afflicted by trauma. Newer objectives in the field of bioarchaeology are putting more emphasis on looking at disease in context. Epidemiological concerns, rather than individual pathologies, are examined by turning to statistical methods to look at disease conditions on the level of whole populations (Roberts and Manchester 1995).[13] The simultaneous expansion of palaeomicrobiology and palaeodemography has been incredibly fruitful. Thus, for example, instead of focusing on diagnosing a single individual with malaria (like King Tutankhamun in ancient Egypt, an unsurprising finding) (Hawass et al. 2010), a palaeodemographic approach can take unusual, even catastrophic burials and draw out of them a picture of the health challenges of the society as a whole. A remarkable burial of fetuses and neonates became the basis for a study of a malarial epidemic in fifth-century Lugnano, Italy, clinched by the first identification of falciparum aDNA (Sallares and Gomzi 2001; Soren 2003; Sallares et al. 2004). Similarly, work on the largest known medieval plague cemetery, the East Smithfield Cemetery in London (the source of the aDNA used to reconstruct the genome of the Black Death pathogen) is also yielding important information that the pandemic was differentially killing off those individuals who were already frail or elderly (DeWitte and Wood 2008; DeWitte 2010).

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[11] Mummified remains from, for example, the ancient Peruvian highlands and ancient Egypt are cited when they are available since they preserve so much more tissue, but these are too rare and usually too isolated to provide much insight at the population level. Exemplary studies include Donoghue 2010.

[12] On the great antiquity of both these diseases, see Stone et al. 2009.

[13] The *International Journal of Paleopathology* (Elsevier), launched in 2011, will take epidemiological analyses as one of its major foci.

Most palaeodemographic studies draw on a rich repertoire of evidence. Similarly, for our course we make use of whatever textual or iconographic evidence we can find to locate and contextualize our diseases, although before the Common Era such evidence is minimal and often ambiguous. It is certainly hoped that more evidence will become available from the long documentary traditions of Chinese and Indian medicine, both of which are now receiving renewed attention from historians (for example, Lo 2009). By the time we reach the two distinctive diseases of the Middle Ages, leprosy and plague, our documentary evidence has grown substantially and we are in a position to do for those diseases what is still not possible for earlier periods of human history: reconstruct the cultural reactions to disease ranging from social stigma to medical theorization. There are still many gaps even in these narratives. Palaeopathologists and historians started to dialogue on the medieval evidence for plague and leprosy just in the past few years, and microbiologists are now joining that conversation. We are on the verge of finally piecing together comprehensive histories of the Justinianic plague (the first plague pandemic, 541–*c.*750 CE) and the beginnings of segregationist practices around leprosy in early medieval Europe (Little 2006; Green unpublished). Further multi-disciplinary work holds the promise that we might be able to work cross-culturally to link the narratives of Europe, Asia, the Mediterranean basin and possibly even sub-Saharan Africa.

Once we move into the Age of Exploration, the historical record explodes – at least for those narratives connected to European colonialism. The one-sidedness of this evidence remains a problem, though even here the combined methods of genomics and history are helping us fill in gaps. For example, the disease effects of the transatlantic slave trade are becoming increasingly clear. Some years ago, Alden and Miller suggested how smallpox could have been transferred repeatedly to South America because of internal disruptions in central Africa caused by the combined effects of drought, competition for land, war and, of course, the slave trade (Alden and Miller 1987). A recent genomics study on smallpox (which, alas, did not cite Alden and Miller's historical work: yet another example of the bibliographical chasms dividing our disciplines) raises interesting questions about the strain of alastrim minor (a milder form of smallpox) that was found both in South America and West Africa (Li et al. 2007). In contrast to the apparently repeated waves of smallpox, another disease may have transferred with less frequency, but equal lethality between West Central Africa and South America. In a genomics-based study published in 2008, Bryant and colleagues suggested that yellow fever (another viral disease), once it had been transmitted by enslaved Africans across the Atlantic in the early modern period, found a new permanent reservoir in the New World in the monkey populations of South America. The Bryant team's work thus not simply solves a puzzle in the evolution of the yellow fever virus, but presents findings of signal importance for the history of African and American slavery (Bryant et al. 2007). Its findings also link with the history of modern public health efforts. Attempts by the Rockefeller Foundation to eradicate yellow fever in South America in the 1920s and 1930s alternated between success and failure, only to be abandoned as 'the most "magnificent failure in public health

history"' (Cueto 1995, 234). It was not until later that Fred Soper discovered the role of monkey reservoirs in sustaining the disease in Africa (and, by implication, in South America, too).

The mass forced migrations of early modern slavery, mostly across the Atlantic, were then followed by less coercive, but no less historically profound, mass migrations of labour in the nineteenth century across the Atlantic, Pacific and Indian oceans. The networks of labour and colonialism, now further complicated by industrialization and rapid developments in transportation technologies (most importantly, railroads and steamships) underlay our narrative about the cholera pandemics of the nineteenth century (Arnold 1991). These, in turn, allow us to explore further the phenomena of environmental disruption. But they also lay the foundation for our discussion of the turn of the tide in public health interventions and the nineteenth-century beginnings of both epidemiology as a scientific discipline and 'international health' as a field of public policy.

The methodologies of history and genomics, and the narratives of the epidemiological transitions, urbanization, human migration, trade and transportation mechanisms, and so on, all come together with our last paradigmatic disease, HIV/AIDS. The drama of the story of HIV/AIDS comes from the fact that it was recognized immediately after the public declaration of the eradication of smallpox in 1980. The complacency brought on by mid-twentieth-century medical successes is part of what made the reaction (or non-reaction) to AIDS possible. The analytical structures we have already put in place throughout the rest of the course make this most awful of pandemics comprehensible in its scope and epidemiological impact, even if it remains utterly incomprehensible how a tragedy of this magnitude could happen under the nose of modern biomedical science and international public health.

In contrast to the way we introduce the other diseases, we do not start with the fully elaborated scientific understanding of the disease. Rather, we present the story of HIV/AIDS in 'real time', starting with the unfolding awareness of the pandemic in the United States and Western Europe, showing it in all its epidemiological messiness. The '4-H Club' categorizations – (male) homosexuals, Haitians, hemophiliacs and heroin addicts (injecting drug users) – are used to show how a combination of historical accident (jet travel and the sexual tourism that arose in the 1970s, coinciding with the gay liberation movement), biological accident (the fact that hemophilia presents overwhelmingly in males), and social stigma created blinders that kept the 'iceberg' of the pandemic invisible or, at the very least, allowed its extent to be underestimated for so long. We then examine why it took ten years into the formally recognized pandemic for the '5th H', heterosexual women, to be fully incorporated into surveillance paradigms, even though they were recognized as patients right from the start. Finally, we turn to the question, 'Why Africa?' Given everything we've already done to create a global framework of analysis, the zoönotic origin, the role of migrating populations and disrupted ecosystems, changing social arrangements and even (potentially) iatrogenic practices all fit with the pieces of the genomic puzzle that molecular

scientists and epidemiologists have assembled over the past decade and a half.[14] HIV/AIDS also, regrettably, serves as the coda to our course's narrative, given its co-morbidity with several of our other paradigmatic diseases and the possibility that it may be driving new, higher levels of infection.

Transformative Thinking

How does having a broad perspective on the history of disease – a view of the whole iceberg instead of just its tip – allow us to change our thinking about disease and our understanding of global health in the present day? In other words, why might current participants in global health decision-making and policy implementation benefit from having a historical perspective on global health that goes deeper than the history of the policies themselves and incidence rates from the past decade or two? Three reasons can be identified. First, a historical perspective allows us to better conceptualize where diseases come from. Second, it allows us to better understand why certain diseases have the present geographical presentations that they do. And third, it allows us to develop a deeply nuanced sense of the social and cultural factors that contribute to both the spread of diseases and their containment – why, that is, certain diseases seem to be so inextricably entrenched in certain social landscapes. Understanding the chronology of diseases' presence in different areas of the world may not only suggest the utility of testing for specific pathogen strains on the basis of DNA genotyping,[15] but it may also give us some insight into the formation of cultural reactions to disease, both pharmaceutical and social.

Where diseases come from

An epidemiologically rich genomics is expanding our thinking by demonstrating how many human infectious diseases are zoönoses (diseases that come from or maintain reservoirs in non-human animal species). True, some of this work is

[14] Despite the vast profusion of scholarship on the HIV/AIDS pandemic, I have found no single historical work that covers all these key elements of the disease's history. Among the multiple sources I use (including the first case reports from both the United States and Africa – the latter being particularly important proof of the early recognition of heterosexual transmission), the following are critical: Oppenheimer 1988; Iliffe 2006; Denis and Becker, eds 2006; Schoepf 2010. See also the key genomics studies: Sharp and Hahn 2008; Worobey et al. 2008. For summaries of the still-evolving thesis of early iatrogenic dissemination of the disease in Africa, see Strickland 2010; Pepin 2011.

[15] For example, DNA analysis of the Haitian cholera epidemic in the fall of 2010 allowed quick determination that the pathogen was most closely related to a strain from Southeast Asia; see Chin et al. 2011.

throwing out old chestnuts, such as the idea that tuberculosis came to humans from animals they had domesticated and must therefore postdate the first epidemiological transition. Phylogenetic work on the various mycobacteria species has shown instead that humans almost certainly gave TB *to* cows, in which a new species of organism eventually evolved (Stone et al. 2009). TB is a classic 'heirloom' disease, having come to modern humans from earlier hominin species. The presence of the disease in pre-contact America is now well established, though newer researches are suggesting that the strains brought over by Europeans overwhelmed the 'indigenous' strains. Given how lethal a threat TB still is in Latin America, and especially so to those indigenous groups that have only recently made sustained contact with mestizos or those of European descent, a thorough reconstruction of this history is of paramount importance to present-day public health (Hurtado 2003).

Zoönoses coming from non-human primates in Africa have, since the revelations about the origins of HIV in the late 1990s, rightly received the most attention, and have reasonably raised many questions among those now dedicated to the field of emerging diseases. The identification of falciparum malaria in the gorillas of West Central Africa by the team of Liu et al. in 2010 is certainly the most significant of these studies, not simply because, in the course of that work, they identified three new species of plasmodia in primates, but also because their results suggest a possibly narrower timeframe for the emergence of falciparum in humans, which would also force reassessment of the development of the sickle-cell genetic adaptation. These are dramatic results, to be sure, but important questions also need to be raised about the origin of other diseases. A surprising finding of late is that leprosy, which previously had been thought to be exclusive to humans and armadillos (who, like cows in respect to TB, were initially infected by humans and not the other way around), may be endemic to some non-human primates as well. With WHO efforts at eradication of Hansen's disease becoming so successful thanks to the universal free treatment programme that started in 1995, the prospect that (as with yellow fever) we may have unrecognized animal reservoirs living in close proximity to human populations radically impacts any hope we may have of eradicating this ancient scourge.[16]

Geographic presentations

The significance for global health of contact between the Old and New Worlds had been recognized well before Alfred W. Crosby (1972) coined the term 'the Columbian Exchange' in 1972. There is no question that the amount of disease transmission that occurred in the years after Columbus' voyages accounts

[16] On incidence rates as of early 2010, see WHO 2010b. On leprosy in non-human primates, see Stone et al. 2009; and Suzuki et al. 2010. My thanks to Luz-Andrea Pfister for sharing with me observations from her on-going research on this question. There is also some evidence that *Mycobacterium leprae* may survive in the soil; see Lavania et al. 2008.

for extraordinarily high mortality figures for Amerindian populations in the Caribbean and parts of South America. But it was the transatlantic slave trade that followed those years of conquest that permanently altered the disease pool of South America by, as noted above, bringing new diseases to the region that then became endemic.[17] Moreover, the spread of diseases that are of moderate significance in one population but become severe in immunologically naïve populations continues: indigenous groups in South America are still showing the dire effects of new diseases, usually acquired on top of conditions that have afflicted these populations for many generations (for example, Hurtado et al. 2005). TB is especially important, both because of its great antiquity in hominins and because of its resurgence in the past 20 years. Prevalence rates among some non-urbanized indigenous populations seem to have remained low up to the late nineteenth century, only spiking thereafter.[18] Hence, it is an important question whether the patterns of infection we see now for this widely disseminated disease are of long-standing or reflect relatively recent changes in migration patterns and urbanization. Given that variations in human susceptibility have themselves only recently come into focus with new methods of genetic analysis, and given that recent changes in the virulence of certain strains of the disease may have also occurred, we can understand why multi-disciplinary analysis of this disease's history is more critical than ever.[19]

TB is readily transmitted by those who have active clinical cases. Leprosy, in contrast, has been understood as a very slowly developing disease, difficult to catch. Indeed, new studies of the genome of this, one of the most slowly replicating bacteria known to science, show that despite its wide geographic dissemination in the modern world, the pathogen is a virtually identical clone – that is, it shows very little evidence of evolutionary variation (Monot et al. 2009; Watson et al. 2009). To date, no palaeopathological evidence has been found to prove the

[17] Of the thirteen endemic neglected tropical diseases recently listed for Latin America and the Caribbean, only three or four were clearly endemic prior to Columbian contact. See Hotez et al. 2008.

[18] See, for example, on indigenous populations in the US, Jones 2002. In Jones 2003, he argues that 'the specific contribution of such genetic or developmental factors is probably unknowable' (704), and instead attributes high Native American mortality to multiple factors including nutrition, war and social disruption. As a historian, I would not discount any of these factors, but it is ironic that the same year saw the publication of Ramenofsky et al. 2003, which argues that genetic factors—of pathogen as well as host—are very much knowable with new methods in genomics. On the question of immunity with respect to TB in South Africa, see chapter 2 of Packard 1989.

[19] An example of genetic analysis of susceptibility is Wilbur et al. 2007. In on-going research, Anne C. Stone at Arizona State University is pursuing questions of changing virulence of TB on the basis of world-wide DNA comparison. Gandy and Zumla (2002) raise another important question whether, as a socio-biological disease, TB as it is now being experienced in many parts of the world (characterized by drug resistance, HIV co-morbidity and social and economic disruption) is really comparable to the TB that saw decisive reductions in the early to mid-twentieth century.

presence of the disease in the New World prior to European contact, a finding supported by genomic studies which suggest that leprosy was introduced into both West Africa and the New World only in the past 500 years. It is remarkable, therefore, that Latin America and the Caribbean currently account for 11.4 per cent of the global disease burden (Hotez et al. 2008, table 1).[20] There is, in fact, a huge hole in our historical understanding of leprosy: why did leprosy become a public health crisis in the nineteenth century? Was its appearance in so many parts of the world as sudden as it seems? To my knowledge, no global narrative has yet been written that connects the well-documented history of the disease in medieval Europe and East Asia with the nineteenth-century 'crisis' witnessed (or sparked by?) the production in 1847 of the widely influential *Om Spedalskhed* (On Leprosy) by the Norwegian researchers Danielssen and Boëck.[21] The on-going Global Project on the History of Leprosy, an initiative of the International Leprosy Association, is only focused on collecting data on archives that go back to 1800 (Robertson 2003). Here again, pushing deeper into time will help us better understand not simply the present-day medical geography of the disease, but the circumstances that allowed its propagation.

Social landscapes and cultural responses

Whatever the reasons for leprosy's dissemination throughout the world by the nineteenth century, there was a surprising uniformity in the social response to it in the nineteenth and twentieth centuries. Social history is the terrain where the historian is most comfortably in command. Although it certainly helps our reconstruction of the history of health and disease to know 'what the disease really was' in terms of the manifestation of symptoms and the chronological course of debility or death, what the traditional historian is really after is the human response.

Human beings are obviously less predictable actors than single-celled organisms and one could choose any number of examples, even from our eight paradigmatic diseases, to ask whether history's lessons are all that valuable in providing guidance to present-day researchers or health workers in the field. Of what relevance is a study of yam agriculture and the origins of malaria in Palaeolithic Africa to the modern malariologist? Why take the time to read a 300-page book on smallpox when the disease no longer threatens a single human being? Researchers have never faced a bigger glut of information than they do nowadays, and arguments for narrowness of focus have their validity. So here is just one example of a moment when a historical perspective was able to offer some guidance to public health agendas.

[20] On creation of a new zoönotic reservoir in the New World, the American armadillo see Truman 2011.

[21] For a history of the disease in the British Empire, see Edmond 2007. An excellent study on China that reaches back to the ancient period is Leung 2009.

The trajectory of the HIV/AIDS pandemic was profoundly affected by the historical accident that its initial victims were identified by their sexuality. In 1988, Allan Brandt, a historian who specialized on syphilis – that other sexually transmitted disease of major historic import – published an essay offering four lessons on the trajectory of the AIDS pandemic that was unfolding before the world (Brandt 1988). These were:

- Lesson #1 – Fear of disease will powerfully influence medical approaches and public health policy.
- Lesson #2 – Education will not control the AIDS epidemic.
- Lesson #3 – Compulsory public health measures will not control the epidemic.
- Lesson #4 – The development of effective treatments and vaccines will not immediately or easily end the AIDS epidemic.

Thirty years on into the 'official' HIV/AIDS pandemic, Brandt's assessments, although pessimistic, seem prescient. More than any other major disease, HIV/AIDS has forced us to think differently – and with much greater clarity – about sexuality, poverty, science, stigma and human rights. It has forced us also to go global and see, in ways most diseases have never done before, that the human race is still tied together by common bonds of biology and morality.

The Future of Global Health History

There is an oft-repeated maxim that those who are ignorant of history are doomed to repeat it. Would that we were so lucky! Would that we could know in every case which pathogen would arise, which constellation of environmental, political and economic circumstances would obstruct effective medical or public health responses. I have suggested that diseases are 'icebergs' of history. And icebergs are epistemological challenges because we proverbially become aware of their extent and depth only after they have done their damage. But we should not deceive ourselves that even hindsight is easy. The narrative I have pieced together in this chapter reflects a years-long investment in reading across disciplines, made the more challenging because there are currently so many gaps in communication between traditionally trained historians, medical anthropologists, epidemiologists, genomicists, palaeopathologists and the many other disciplines that contribute to these fields.[22] There seems to be little by way of interdisciplinary peer review of studies that make historicist claims.

[22] My own endeavour to read across the disciplines of medical anthropology and palaeopathology began in the late 1990s, aided by a fellowship at the Radcliffe Institute for Advanced Study, Harvard University, in 2001–2. That work, in turn, has been furthered by the 'private tutorials' I have received from my colleagues in Bioarchaeology here at Arizona State University in the past several years.

Perhaps the most important point for scientists and policy experts to understand about history as a discipline is that it too evolves. Just as historians need to learn more about the validity of arguments made in the biomedical fields, so it would benefit scientists and policy specialists to learn more about how historical arguments are made and evidence assessed. For example, the approach described here differs significantly from the widely familiar perspective of William H. McNeill's *Plagues and Peoples*, the 1976 book that argued for infectious diseases as major factors in the course of human events (McNeill 1976). Needless to say, McNeill's work was untouched by the new perspectives on disease evolution that the late twentieth century genomics revolution has provided us, not to mention recent developments in the field of immunology. On scientific grounds alone, there is much that merits rethinking in his analysis.[23] These changes in scientific understanding of the evolution of pathogens, moreover, need to be set beside the equally radical changes in both factual data and methodological techniques and perspectives that historians have developed in the 35 years since McNeill first published. The approach offered here is less concerned with seeing the role of disease in dramatic turning points of political history (wars and conquests) and more with the *status quo* accommodations that humans have made in living with, and dying from, these diseases across millennia. It is therefore disconcerting to find that scientific studies, which would never be published without reference to the most current scientific data, often cite nothing more recent than McNeill's book or other dated historical literature.[24] Referring to various agendas in public health policy, Birn (see Chapter 2) has noted that 'many funders and policymakers use historical episodes or precedents – often selectively invoked – to push forward particular agendas based on (mis)perceived successes of the past' (Birn 2009, 51). Greater awareness of historical argumentation would help avert speciously selective uses of 'history'.

Creating such awareness would be facilitated by better databases of historical work.[25] However, the pace of discovery in genomics, together with the urgency

[23] I am grateful to Matthew Parry for pointing out to me the importance in McNeill's analysis of his view that acquired immunity was somehow a sign of greater civilization. This in turn helped me understand why debates about the alleged lack of immunity among Native Americans were such a contentious issue in the historiography (see note 23).

[24] For example, aside from a 2002 essay from the *Bulletin of the History of Medicine*, in their excellent survey of disease emergence, Weiss and McMichael 2004 cite no other work in the history of medicine besides McNeill 1976 and Jared Diamond's populist *Guns, Germs and Steel* (1997).

[25] No comprehensive database for the history of medicine or health exists. PubMed, the online database published by the National Library of Medicine in Bethesda, Maryland, is very minimalist in its coverage of historical literature (of the present writer's 120+ publications in the history of medicine, for example, it lists only three), and no other single resource exists that covers all that might be termed history of medicine. The closest approximation is the *Critical Bibliography* published annually by the History of Science Society as a supplement to its journal *Isis*; this is now also published as an online bibliography called simply the 'HSTM Database', which is available only to members of the Society or by special subscription. Also useful (though hardly comprehensive) is Bibliothèque interuniversitaire de Santé [no date],

of global health needs, suggests that we cannot afford to wait for a simple bibliographical intervention. The easiest way to incorporate historical findings and methodologies into other areas of health research is to bring historians onto research teams. Most scientists are accustomed to working in teams, and increasingly those 'teams' are scattered around the globe, relying on telecommunications to develop their projects and assemble their results. So why not identify historians who can contribute as well? There are various reasons (institutional as well as financial) why historians might wish to continue to work in the ways they have always done: often in solitude, in archives full of written documents. And much of this work can't be rushed. But it is possible to think strategically about the ways history and the historicist sciences can work in tandem – if not jointly, then at least side-by-side. The experience of creating a narrative of our eight paradigmatic diseases, and connecting that to my longer-term interests in women's health, has suggested to me the following objectives for such interdisciplinary work that could contribute to current policy (and potentially, intervention) agendas.

(1) Think about more than one disease at a time

HIV/AIDS has brought to the fore issues of co-morbidity, and more and more evidence is showing that bodies stressed by one disease will be all the more susceptible to the ravages of others. Although the concept of pathocoenosis (the collective pool of diseases circulating within a given population) was coined by the noted historian of medicine Mirko Grmek in 1969 (Jones 2005), historians' aversion to retrospective diagnosis seems to have inhibited them from exploring the idea of co-morbidity.[26] Palaeopathology, and especially analyses that develop and refine techniques of working with aDNA, are re-opening the possibility that the history of co-morbidity can be effectively studied. Right now, conclusions are more conjectural than definitive, but suggestions such as Jesper Boldsen's idea that leprosy declined in late medieval Europe because of several combined factors (only one of them being the impact of bovine TB), will undoubtedly be fruitful for future research and offers potential implications for other diseases as well (Boldsen 2009). A study of plague in late medieval and early modern Venice is intriguing not simply for documenting the absence of several purported alternative candidates for the causative agent of the Black Death (anthrax, typhus and so on), but also for offering positive evidence of co-infection of *Yersinia pestis* and *Bartonella quintana*, a lice-transmitted organism which may support the developing view that *Y. pestis* is just as effectively transmitted by lice as by fleas (Tran et al. 2011).

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an open-access bibliography. The online catalog of the Wellcome Library in London is also useful, though it only lists items in the Library's own holdings.

[26] The notion of 'syndemics' is gaining increasing popularity among epidemiologists and medical anthropologists; see Singer 2009.

(2) Historicize everything!

The English phrase 'from time immemorial' is invoked to claim that things have always been the way they are. But the phrase itself has a history: it was coined to set a limit to legal claims in thirteenth-century England, which could not thereafter be pushed back beyond the previous century. As the narratives above have suggested, we are developing a sense of when most infectious diseases first impacted the human species. What, then, sustains the disease? What circumstances will exacerbate it? The increasing focus on emerging and re-emerging diseases, for example, has been framed largely in 'shallow' historical time (to the extent that such research has been historicized at all). But there have always been emerging diseases and we can and must do a better job of exploiting history for what it has to tell us. Although there is still not enough recognition of historians' work among those researching malaria genomics, it is an encouraging sign that historians like Webb, Packard and Snowden are prominently at the fore of current efforts to 'roll back malaria'. As they have definitively shown, malaria eradication efforts have repeatedly been compromised when there is reliance on medical technology, but neglect of environmental, social and economic conditions (Cueto 2007; Snowden 2009; Webb 2011). These conditions have histories too, and they must be reconstructed.

(3) Take 'global' seriously

Critiques of both biomedical science and public health policy have rightly identified ways in which industrialized societies, or the 'North', have dominated or directed both the questions of global health and the answers (policies and projects) pursued. The North equally dominates the field of history of medicine/health. The history of cholera, for example, is consistently written from the perspective of its effects on Europe or North America; as noted above, we can barely piece together anything about the history of this disease in India itself prior to its first pandemic outbreak in 1817 (notable for its effects on British troops) even though there are references to it from at least the sixteenth century. It is no coincidence that most attempts at the *global* history of health have thus far been made by Africanists, who do not start from a Euro-centric view of the world.[27]

The most immediate objection to pursuing a global history of health is that, aside from China and India, few non-Western societies have the rich documentary traditions needed to piece together histories that reach back before European colonialism. But even in the oldest traditions, written records only go back a few millennia and are wholly inadequate for capturing the deep history that we need. That is where alliances with the sciences – which can look beyond written sources – radically alters the landscape of what is possible, not simply for cultures with long literate traditions, but for humanity as a whole. Various kinds of anthropology

[27] In Anglophone literature, these names include Philip Curtin, K. David Patterson, Kenneth F. Kiple, Myron Echenberg and James L.A. Webb, Jr.

(physical, cultural, linguistic) have been used to reconstruct a history of malaria in pre-colonial Africa (Webb 2005). Microbiology is likewise showing us that the history of pathogens themselves can contribute meaningfully to the history of human migration. For example, the work of Mark Achtman's team on the geographic distribution of the human gastrointestinal bacterium, *Helicobacter pylori*, has found that *H. pylori* strains are congruent in their genetic character and apparent evolutionary development with patterns of human migration in the Pacific already documented by archaeology and linguistics (Moodley et al. 2009). The disciplines of anthropology (including bioarchaeology), genomics and history together are informing work on pre-contact Latin America, which in turn is connecting fruitfully with anthropological studies on contemporary indigenous cultures, which in turn have the potential to connect with the rich traditions of modern medical history developing in Latin American historiography (Buikstra 1999; Stone et al. 2009; Hurtado et al. 2003; Cueto 2007; Birn and Hochman 2008).

As a historian of medicine who repeatedly encounters the sufferings of past societies, I do not believe that the utility of studying history lies in its ability to produce the right answers for present day problems, whether they be the challenges of clinical treatment for those already suffering from disease or public health agendas to ward off future infection and debility. History is all about contingency and the uniqueness of any given circumstance. Rather, the utility of history lies in helping us ask the right questions, not simply about microscopic pathogens but also about the foibles of the human heart and the limits of political will and intellectual vision. That is where we make a start.

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From Plagues to Peoples: Health on the Modern Global/ International Agenda[1]

Anne-Emanuelle Birn

The term 'globalization of health' implies a historical process whereby health understandings, institutions, actors, status, etiologies, determinants and priorities have moved from a primarily community domain to a linking of the local to worldwide trends, concerns, and political and social forces. While the globalization of health suggests shared phenomena across space, the notion of global or globalization is totalizing and so fraught with scholarly anxieties (Appadurai 2001) that its utility is questionable. Clearly the underpinnings of the 'globalization of health' vary across time and place and must be qualified, making historical contingencies and contextualization vital to illuminating the notion. This chapter takes up the historicization of the 'globalization of health' (on the importance of historicizing, see the preceding chapter) by first exploring how health became an international issue in(to) the modern period and then describing how health concerns were institutionalized at an international level before and between the two World Wars. This effort – conceptualized at the time in terms of 'international health' – involved the creation of intergovernmental and multi-lateral (though not supra-national) agencies, as well as philanthropic and voluntary organizations with an (often self-declared) international purview. Notwithstanding these new institutional arrangements and the idealism of the many new actors who appeared on the scene, the power politics and policies of international health remained, to a great extent, aligned with and subsidiary to the existing Europe-centred imperial order. As such, institutionalizing health at an international level in this period created intractable dilemmas regarding reach, approaches, and inclusion/ exclusion, many of which resonate to the present day.

[1] This chapter is partially adapted from chapter 2 of Birn, Pillay and Holtz (2009).

Globalization's Antecedents: The Historical Context of International Health

The modern system of international health – involving disease surveillance, sanitary regulation, international organizations, information exchange and 'cooperative' activities – emerged in nineteenth century Europe and the Americas, but preoccupation with public health was present in ancient Chinese, Egyptian, Persian, Hindu, Greek, Roman, Ethiopian, Maya and other civilizations. Until the Middle Ages, however, health concerns and disease outbreaks rarely extended beyond limited regions, except in the case of military incursions.

Great plagues

The sixth century Plague of Justinian, and, especially, the Great Plague of the fourteenth–seventeenth centuries sorely tested this localism. Originating from rodents (likely in China or Central Asia) whose habitats were disrupted by a mix of human invasion, expansion of farming lands and new trading patterns, what became known as the Black Death travelled by land and sea across trade routes such as the Silk Road. The most destructive epidemic in the history of humankind, it resulted in an estimated 100 million deaths (almost one quarter of the world's population, and up to half of all Asians, Europeans and Middle Easterners). The plague revealed the sanitary backwardness of Europe's growing towns and prompted authorities into action. The appearance of disease was understood by some in cosmological or environmental terms; others considered it God's punishment for collective or personal sin. These interpretations motivated, variously, days of prayer and the disposal and burning of corpses and belongings. Still others held that plague was transmitted from person to person, a notion that helped stimulate harsh measures, and appeared to justify the fleeing of the well-off into the countryside. In 1348 the city-state of Venice adopted a 40-day detention period – *quarantine*, from the Italian word for 40 – for entering vessels after which time the disease was believed to subside.[2] This measure was soon copied by other major ports. Quarantine's stricter counterpart, the *cordon sanitaire* – a protective belt barring entry of people or goods to cities or entire regions – was also used frequently in succeeding centuries.

Because the Black Death's initial appearance preceded the formation of nation-states, sanitary efforts were adopted and implemented by local authorities. While disease spread through rumour and travellers, there was no official system of notification or cooperation between city-states. Many cities established temporary plague boards, with some creating more permanent public health bodies charged with imposing the necessary measures at times of outbreak.

[2] Venice established the first *lazaretto* in 1403, a quarantine station to hold humans and fumigate cargo. Its island location was emulated by many other cities.

The Birth of imperialism (and its health accompaniments)

In part fuelled by the social and demographic devastation of the plague, mid millennial Europe underwent a colossal set of transformations in the realm of political economy, including: consolidation and enrichment of powerful kingdoms; adaptation, application and extension of scientific and technical knowledge from the Islamic and Chinese worlds; and a gradual transition from feudalism to capitalism.

After curbing Muslim influence in the fifteenth century, Europe's monarchs instigated Crusades-inspired military-proselytizing campaigns, coupling newfound power with greed for expensive commodities and new territories. Portugal and then Spain (whose united Catholic monarchs unleashed the repressive Inquisition in 1478), both maritime societies, were in the vanguard of these sea conquests. Portugal's plundering raids into North Africa and later India became permanent garrisons for the lucrative spice trade from the East. After the Spanish-sponsored Columbus expedition 'discovered' the 'New World' in 1492, Spanish and Portuguese monarchs – abetted by a series of Papal bulls – arrogantly divided control of the world and embarked upon a brutal land grab.

The English and Dutch challenged Iberian dominance in the seventeenth century, extending European commercial, political and military power even further. The Westphalian system of nation-states emerged around this time, setting national boundaries and asserting sovereignty within Europe, even as European powers were violently staking territorial claims across the world. Subsequently, France, Belgium, Italy, Germany and others became colonial overlords, with Russia, Japan and the United States among the last to enter the imperial fray in the late nineteenth century.

The era of imperialism, roughly spanning the late fifteenth to the mid twentieth centuries, spawned multiple 'health concerns across place', leading colonial offices, military authorities and missionary organizations to fashion an uneven precursor to the modern system of international health. Conquest itself bequeathed dire health consequences, which accompanied every phase and locale of imperial expansion, centuries before industrialization's urban misery put public health on domestic political agendas. Most infamously, smallpox is believed to have been spread intentionally throughout meso-America via distribution of infected blankets by Spanish conquistador Hernán Cortés's soldiers. Yet mortality from forced labour was likely far higher. All told, between one-third and one-half of indigenous inhabitants were killed in the late fifteenth and early sixteenth centuries by the military, economic and social aspects of the conquest (Berlinguer 1992; Crosby 1993; McCaa 1995; Cook 1998).

Throughout the colonial period and beyond, disease and death were rife among subjugated populations, owing to a variety of factors: conflict; bondage and indentured servitude; dangerous work in mines, construction and plantations; dispossession from land, cultural heritage, community and livelihood; corporal punishment; crowded living conditions with attendant respiratory and gastro-intestinal diseases; famines and food shortages; trade and travel; and ecological

alterations, including swamp-filling, canal and later railroad construction and forest exploitation, which created breeding sites for malarial mosquitoes. Colonists also suffered widely from infectious diseases, but occupational mortality and early death among Mestizo labourers, African slaves and indigenous groups, combined with staggeringly high infant mortality rates, meant that these groups on average lived far shorter and sicklier lives than Iberian elites (Crosby 1972; Kiple 1989; Gaspar and Hine 1996; Florentino and de Góes 1999).

While pre-Columbian societies in meso-America also experienced high death rates from violence, occasional famine and infectious diseases (Alchon 2003), the conquest stood out because of the magnitude of death as well as the enormous mortality differential between invaders and invaded. Spanish conquistadores used this differential to military and cultural advantage, trumpeting the presumed constitutional superiority of the invaders (now understood to have been immune due to previous exposure to microorganisms). In subsequent centuries, corresponding devastation was wrought by other European invasions and occupations across North America, Africa, Asia and the Pacific.

Medical practitioners, initially hired to protect military forces, joined the colonial ventures. As region after region came under European control, physicians began to be integrated into colonial authority structures, treating colonists, setting rules for medical practice and, sometimes in competition with the viceroy and Church, implementing emergency measures during epidemics (Lanning 1985; Hernández Sáenz 1997). By the eighteenth century, medicine and public health were established as major ingredients in the colonization of peoples around the world, far more nefarious activities than their sometime portrayal as the humanitarian component of military and political ventures. Indeed, the 'assumption that imperialism, whatever its other faults, at least led to an improvement in the health of the indigenous populations' (Farley 1988, 189) belies the intent of colonial public health measures: to protect the well-being of the imperial military; to make 'the tropics' habitable by European settlers; to improve the productivity of local workers; to subjugate conquered populations; and to reinforce the political and social stratification between colonizer and colonized (MacLeod and Lewis 1988; Bashford 2004).

Slavery and the (ill) health of the tropics

Labour was central to the imperial project. With indigenous populations wiped out by conquest or deemed 'unfit' for labour, colonial production in the Americas and beyond came to rely on voluntary migrants and European indentured servants and convicts. But these groups were hard to check in vast territories and too limited in numbers to meet production demands. Britain eventually became adept at transferring forced labourers from one part of its empire to another, explaining the large populations of Indian ancestry in places as distinct as Trinidad, Fiji and South Africa. Before this, as of the sixteenth century, the expanding colonial system relied on the capture, transport, trade, sale and condemnation to slavery of millions

of human beings. Slavery was not a new phenomenon – Italian city-states, for example, relied on slaves to fill labour shortages following plague epidemics – but it had never before been practiced on a worldwide scale or in such a racist manner. Europeans targeted Africans as the source of slave labour due to a combination of factors: dark skin colour that facilitated control and vigilance over escapees; European perceptions of Africans' physical suitability to tropical climates, where most agricultural labour was needed (on plantations growing coffee, cotton, rice, sugar, tobacco and so on); and the relative ease of capturing slaves in Africa.

The Atlantic slave trade between Africa and the Americas accounted for the bulk of traffic, following a triangular route whereby slaves were traded for sugar, indigo, tobacco and other cash crops in the Caribbean, brought to Dutch, Portuguese, French and British ports in exchange for textiles, arms, alcohol and metals, which were in turn sold or bartered for slaves in West African ports. Enormous profits were made at each stop. Between 1502 and 1870, an estimated 11.4 million Africans were captured, shipped and forced into bondage. Between 8 and 10 million were sent to Brazil and the Caribbean with another 1 million to the United States and Spanish South America. Some 12 to 15 per cent of those captured died in the 'middle passage' before reaching American shores (Curtin 1968). For the survivors, slave life expectancy in the United States before the Civil War was 21 years, approximately half that of whites. This was largely due to astronomical rates of infant mortality: half of all babies born into slavery died before turning one year old, compared to one-fourth of non-slave infants. For those slaves who survived into adulthood, few lived past 50. Slaves in Brazil, the Caribbean and elsewhere faced similar conditions (Postell 1951; Campbell 1984; Amantino 2007).

As long as profits were being made, imperial authorities paid limited attention to the health of slaves and other labourers. By the 1800s, as colonialism expanded into Asia and Africa and profiteering and production accelerated, health concerns demanded more than intermittent attention. Diseases spread via ship (such as yellow fever) and parasitic diseases associated with the tropical climates of many colonies (for example, malaria, trypanosomiasis and leishmaniasis) all raised alarm as threats to trade, European invaders and settlers, and labour productivity. Calling a part of the globe 'the tropics' also became a way for imperial powers to define something culturally alien to, environmentally distinct from, and even threatening to Europe and the other temperate regions (Arnold 1997; Harrison 1999). The arena of tropical medicine emerged to address health in the colonies. Most famous, perhaps, were discoveries regarding the etiology, parasitic life-cycle, vector and transmission patterns of malaria (Packard 2007) in which French, Italian, British and South American scientists, medical officers, and local assistants (most of whose contributions went unrecognized) in colonial Algeria, Formosa and India, as well as Italy, Brazil and Argentina, participated.

The 'invention' of the tropics and of tropical medicine also shaped a series of racialized explanations regarding underdevelopment, susceptibility to disease and suitability for work (Gorgas 1909; Arnold 1996; Harrison 1996; Peard 1999; Deacon 2000; De Barros, Palmer and Wright 2009). Acclimatization arguments inevitably favoured the colonizer – whether providing an explanation of why so many

Europeans perished in their initial encounters with hot climes despite supposed racial superiority; rationalizing the use of 'brown labour' that could better tolerate hot, humid weather; or justifying the exploitation of regions and peoples deemed unable to escape their medico-geographic state of underdevelopment. Colonizers' belief in the 'civilizing' effects of medicine upon native peoples, their adherence to the notion that infectious diseases originated in the 'primitive and dangerous world' of the tropics, their fascination with questions of acclimatization and racial difference (Lorcin 1999), and the hiding of diseased settlers in order to perpetuate the myth that Europeans possessed superior immunity all attest to the centrality of health matters to imperial power.

Industrialization and the Emergence of Modern Public Health

At the height of the imperial grab for colonies in the eighteenth and nineteenth centuries, European countries began to undergo a massive transformation from largely agrarian societies into urbanized capitalist industrial economies. This transformation was largely financed by the riches amassed – and fuelled by the raw materials extracted – through colonial exploits.

The transition from feudalism to capitalism entailed vast social and demographic shifts, fundamentally altering the way people lived and died. Between 1750 and 1900 the human population doubled from about 800 million to 1.7 billion, following centuries of stagnating and sometimes falling populations in times of food shortages. The feudal era's social divisions among monarchs and noblemen, a small artisan class and the vast peasantry were displaced by new classes of merchants and industrialists (the bourgeoisie) and urban industrial workers (the proletariat) under a capitalist economic system.

The term 'industrial revolution' denotes the period from about 1750 to 1850 during which factories and power-driven machinery were first employed for the mass production of commercial goods (based on developments in engineering and chemistry), and unprecedented volumes of raw materials and consumer goods crisscrossed the world. Advances in science and technology both contributed to capitalist industrialization and, particularly, were stimulated by it. The textile industry played an early role in industrializing northern Europe. Textile machinery initially relied on water power, restricting the placement of mills, but after James Watt's invention of the steam engine in 1781, factories could be located at almost any site, limited only by supplies of labour, coal and materials. The need for factory workers produced a whole new category of wage labourers drawn from landless farmers, impoverished apprentices and destitute women and children. With a seemingly unlimited supply of workers, most factory owners displayed utter indifference to their welfare, comparable to attitudes of slave traders. Safety measures were minimal and small children, sometimes literally chained to the

machines, toiled from dawn to dusk in dusty, noisy, unheated and unventilated workrooms.

The new factories generated enormous wealth for their owners, who bought raw materials at rock bottom prices from the countryside and colonies and paid the lowest wages they could get away with, even as they invested heavily in changing technology. It would take over a century of struggle before workers would be protected by welfare states through economic security, workplace safety and social services.

Sanitary reform

In the first half of the nineteenth century, industrial cities were bursting at their seams, with populations doubling, tripling or more within a generation. Labourers flocked to factory towns from the countryside, unable to survive as pastoralists after new laws banned collective farming. Urban housing was built as quickly and cheaply as possible, packing dozens of people into windowless rooms. City planning was non-existent and sanitation neglected. The smoke from innumerable factories and coal fires filled the air and blackened buildings and lungs alike. Despite some improvements in agricultural output, nutrition was poor. Rickets became common in children rarely exposed to sunshine, and contagious diseases such as tuberculosis, diphtheria, typhus and diarrhoea took a great toll. Occupational injuries and deaths were common, as were diseases arising from unrestricted industrial use of lead, mercury, phosphorus and other toxic substances.

Workers began to organize collective efforts to better their conditions, joined by certain middle-class social reformers who were outraged at the shocking conditions in city slums, factories and mines. These efforts faced formidable foes in industrial owners and their political partners, but by the mid-nineteenth century, the resistance of moneyed interests to sanitary reform was no longer tenable.

The movement for sanitary reform in Britain engendered heated debates, featuring most prominently Edwin Chadwick and Friedrich Engels. Chadwick, a lawyer and lifetime civil servant who had authored the *Poor Law of 1834*, which drove the growth of the industrial workforce by compelling the destitute to enter urban 'hellhole' workhouses instead of receiving welfare assistance in their home parishes, then turned to preventing illness (as a means of reducing welfare expenditures) in his report on the health of the working class (Chadwick 1842; Hamlin 1998). Chadwick's belief in the miasmatic origins of disease – putrid air arising from festering filth – shaped his zeal for clean water, sewage and public sanitation, measures which he believed would prevent most diseases and poverty. However, he rejected improved working conditions, wages and food as remedies for pauperism. The notion that poverty itself was the cause of illness was, for Chadwick, unthinkable.

Friedrich Engels, the son of a wealthy German manufacturer sent to manage a factory in Manchester, likewise examined the living and occupational conditions of industrial workers (Engels 1845). With a fundamentally distinct explanatory

framework, Engels attributed the cause of misery and ill health to the exploitation of the industrial working class under the capitalist economic system. Moreover, he believed political action was necessary to redress these conditions (Waitzkin 2005). In 1848, Engels joined with Karl Marx to issue *The Communist Manifesto*, calling for the revolutionary overthrow of the exploitative capitalist system. Across Europe and throughout the world, an unfurling of social movements, culminating in a series of 1848 uprisings across the world, showed widespread resistance to the industrial revolution, to imperialism and to the concentration of wealth and power and the oppression that they generated (Krieger and Birn 1998; Rapport 2008).

While Britain did not undergo a communist revolution, a combination of sanitary (later public health) reforms and militant class struggles from the mid-nineteenth to early twentieth century resulted in marked improvements in social conditions, moderate income redistribution and increases in life expectancy, although intractable social inequalities in health remained (Wohl 1983; Szreter 1988; Harris 2004).

The appalling conditions in England were shared across industrializing societies, but distinct political contexts, traditions, institutional cultures, historical trajectories, configurations of class power and geo-epidemiological conditions affected the development of public health in different countries (Porter 1994; Baldwin 1999). Germany's commitment to aggressive public health policies, such as compulsory vaccination and quarantines, was rooted in the need to fend off epidemics from the East, as well as to fashion a domestic politics of power – in large part to stabilize worker unrest – in a state that was late to form (Evans 1987; Weindling 1994). In the Soviet Union public health was centralized from above, with local level medical societies and health initiatives abolished after the 1917 Revolution (Solomon and Hutchinson 1990). Britain's more laissez-faire approach drew from a long history of local and voluntary governance and a belief that its island geography protected it against epidemics (Hardy 1993; Porter 1999). In China, the political fragmentation following the 1911 Revolution meant public health problems received only isolated and disorganized attention (Yip 1995).

In most Latin American countries, now independent, the sanitary authorities that had periodically mobilized to combat epidemic outbreaks during almost four centuries of Spanish and Portuguese colonialism were transformed into permanent health and hygiene boards and departments beginning in the late nineteenth century. Hampered by limited state capacity, they catered mainly to urban elites (Alvarez 1999; Armus 2002; Armus 2003; Palmer 2003; Hochman and Armus 2004; Quevedo 2004). In the United States, public health responsibility, other than for immigration and border control, remained largely decentralized until the Great Depression (Fee 1994), encouraging the involvement of the private sector, including insurance companies and foundations.

These varied developments were undergirded by the increasing scientific and technical potential of public health and medicine. Spawned by the germ theory of disease transmission, and the bacteriological and parasitological findings by the likes of Louis Pasteur, Robert Koch, Carlos Finlay and Patrick Manson, public health's new capacity included laboratory-based verification of disease and a small

but growing armamentarium of disease-control measures, such as diphtheria antitoxin deriving from work by Emile Roux, Emil von Behring and others. The bacteriological revolution's influential explanatory framework and accompanying interventions began to displace public health's environmentally oriented activities. The 'new' public health thus found itself at the vortex of clashing constituencies – scientific experts striving to assert their status, reformers seeking to improve the social order, liberal industrialists eager for steady economic growth and bureaucrats looking to increase their purview, as well as socialists, feminists and labourites fighting for better working and living conditions.

In colonial settings, these measures were not systematically applied outside colonists' enclaves and sites of commercial importance; only in 'model' colonies, such as Ceylon (Jones 2004), did the new public health lead to significant reforms. Even so, developments in metropolitan public health generated ideas, legislation and practices influenced debates and schemes that would emerge in a new domain, 'international health,' which would have great bearing on public health policies across the world.

The Making of International Health

By the early nineteenth century, intense commercial competition between empires (and mounting intra-imperial health concerns) heightened the threat of epidemic disease throughout the world, as the political and epidemiological implications of colonial health problems began to be understood in new ways: for their impact on trade, profits and denizens of 'mother' countries.

Even as individual imperial powers undertook incipient efforts to carry out surveillance and control disease outbreaks, the scale of interchange between, among and beyond empires demanded cooperation and communication. A confluence of factors brought epidemic fears to the fore circa 1850: (a) large-scale immigration from Europe and Asia to the Americas, itself spurred by social unrest, particularly around the 1848 social uprisings deriving from industrialization, political disenfranchisement and their health and social effects; and (b) the explosion of materials extraction, manufacturing, circulation and marketing of goods in turn enabled by a revolution in transportation (steamships and railroads) and transport routes, such as the completion of the Suez Canal in 1868. Together these heightened the threat of disease throughout the world, not just between colony and 'mother country'. The now globalized commercial system meant that a real or threatened epidemic in one part of the world could impede production, trade and consumption elsewhere, and on a fast timetable (Saralegui 1958; Goodman 1971; Howard-Jones 1975; Chandavarkar 1992; Bynum 1993; Fidler 2001; Ronzón 2004; Stern and Markel 2004). A new global economic interdependence magnified the potential dangers of disease and made its control a far more politically complicated matter.

The Americas first

In the Americas, absent the age-old rivalries of European societies, international sanitary cooperation was less contested than elsewhere and the United States, commercially ambitious and politically and economically powerful in Latin America, was strongly motivated to provide regional leadership. Under the Monroe Doctrine of 1823, the United States had occupied ports and countries across the region whenever it sensed its interests were threatened. Moreover, as the world's foremost immigration destination between 1890 and 1920, the United States also became a potential importer of transmissible disease. In the late 1870s, the US Marine Hospital Service started publishing epidemic outbreak news from a worldwide network of informants in weekly bulletins. An 1893 US Presidential Act obliged all immigrants and cargo ships to present certificates of health signed by the US consul and a medical officer in the departing port, and the Marine Hospital Service (later the US Public Health Service) stationed personnel in key ports in the United States (most famously Ellis Island in New York) and around the world to inspect ships and passengers for disease and to enforce quarantine (Birn 1997).

These concerns intensified when the United States acquired colonies in the Caribbean and the Pacific after its 1898 war with Spain (Anderson 2006). US forces invading Cuba had suffered disastrous troop losses from yellow fever and other infectious diseases. Like other colonial powers, the United States began to take on public health activities both to protect its troops and colonists from 'tropical' diseases and to prevent yellow fever from reaching US ports aboard merchant ships (Cirillo 2004; Espinosa 2009). But it was the construction of the Panama Canal that decisively alerted the United States to the importance of international health. Though the building of the Canal hinged upon malaria and yellow fever control, its very completion ironically raised the peril of new epidemics due to shorter shipping routes to and from Asia.

Commercial concerns had long affected political relations among South American countries. The meat and hide economies of Argentina and Uruguay were intent on keeping out yellow fever from Brazil, which might interrupt their profitable exports. An 1887 Sanitary Convention signed by Brazil, Argentina and Uruguay detailed quarantine periods for ships harbouring cholera, yellow fever and plague and was in effect for five years before breaking apart. The following year the Andean countries of Bolivia, Chile, Ecuador and Peru signed the Lima Convention of 1888 (Moll 1940), but these efforts were circumscribed and short-lived due to mutual mistrust and poor enforcement.

In December 1902, representatives of seven American governments met at an International Sanitary Convention in Washington, DC, at the behest of the Conference of American States. Together, they founded the International Sanitary Bureau, which became the Pan American Sanitary Bureau (PASB) in 1923 and the Pan American Health Organization in 1958 (Bustamante 1952). The United States was the prime mover behind the founding of this first international health organization, which was initially run out of the US Public Health Service and headed until 1947 by a succession of United States Surgeon-Generals.

Most Latin American republics soon joined the Bureau and were represented at its quadrennial conferences. The United States was especially interested in having Latin American countries participate in the drafting of, and thus comply with, enforceable sanitary treaties. The PASB's early years were devoted to the establishment of region-wide protocols on the reporting and control of epidemic diseases, including yellow fever, plague and cholera, culminating in a 1924 Sanitary Code, the first Pan American treaty of any kind to be signed by all 21 member countries.

In its leadership and activities, the Bureau reflected US economic interests in Latin American oil, fruticulture, mining and metallurgy, real estate, railroads, banking and other industries. Yet even as its agenda remained focused on sanitary and commercial matters into the 1930s, the Bureau began to engage in other activities, sponsoring a widely disseminated public health journal; addressing – after being pushed by Latin American members – maternal and child health concerns; and organizing an incipient system of technical cooperation to support healthcare systems organization, vital statistics collection and a variety of public health measures (Birn 2002; Cueto 2004). After World War II, the PASB would officially become the Americas Office of the World Health Organization.

Health Cooperation in and beyond Europe: The Long Journey from Meetings to Measures

Notwithstanding fierce imperial rivalries and ongoing wars, Europeans realized, at least in principle, the importance of meeting to resolve mutual problems. The 1814–15 Congress of Vienna sought to chart a post-Napoleonic peace and was the first effort to negotiate treaties face to face, rather than through emissaries and missives. But mutual agreement would be a tortuous process in health and (other) political arenas.

Well before the yellow fever problem had served as the impetus for the organization of the PASB, another ailment had emerged as a worldwide menace, shaping an even larger effort. Cholera had been endemic for centuries in the Ganges River basin, but in 1818 it spread to Southeast Asia, China, Japan, East Africa, the eastern Mediterranean (Syria and Palestine) and southern Russia. Less than a decade later, another wave swept through Russia, where hundreds of thousands died, and into the major cities of Europe by 1831.

Cholera's emergence in Europe was intimately tied to industrialization – the acceleration of trade, together with the urban squalor accompanying urban life, facilitated its spread and increased its severity (Evans 1987). Within a year, transatlantic ships brought this terrifying disease to New York, New Orleans, Montreal and other ports. It spread to the North American interior, reaching the Pacific Coast and Mexico in 1833. The Middle East was not spared, and Muslim pilgrims returning from the Hajj in Mecca were blamed for carrying cholera to

Egypt and the countries of northern Africa. In 1882 the Ottoman Empire set up a quarantine station in the Red Sea (which lasted until 1956) specifically to prevent spread of infectious diseases through the Hajj. In 1854, English physician John Snow had deduced that cholera was transmitted through contaminated water (though without contemplating the class and social dimensions of transmission patterns); the same year Italian researcher Filippo Pacini identified *cholera vibrio* in the stools and intestines of cholera patients and cited it as the cause of the illness. Thirty years later, German bacteriologist Robert Koch, in imperial service, showed that cholera in Calcutta was caused by the same organism.

Indeed, as alluded to above, a flood of discoveries emanated from the world's laboratories in the latter half of the nineteenth century, identifying the causal agent and basic means of transmission of almost every major bacterial and parasitic disease of humans and domestic animals. From roughly 1850 to 1910, theories of miasma and vague conceptions of communicability of disease gave way to experimentally based laboratory data regarding the genesis of infectious disease and its effects upon the body. New knowledge and techniques fostered and were fostered by extensive institutional developments that served both imperial and industrial needs. The Pasteur Institute was founded in the late 1880s with an outpouring of funds donated by a citizenry anxious to help in the development of Louis Pasteur's anti-rabies vaccine. The Institute quickly flourished in the research and teaching realms. Starting in Saigon (now Ho Chi Minh City) in 1891, Pasteur Institutes were also established in several dozen countries in France's colonial empire in Africa, Asia and the Caribbean, as well as in Europe and the Middle East (Moulin 1996; Pelis 2006). In these outlying laboratories, pioneering work was done on plague by Alexandre Yersin, on malaria by Charles Laveran and on the Bacille Calmette-Guérin (BCG) by Albert Calmette.

Simultaneously, international conferences in virtually every scholarly and professional domain marked the rise of an international exchange of ideas, standards, challenges and breakthroughs. For example, in 1851 alone, the 'Great Exhibition' of London (the first World's Fair) celebrated trade and manufacturing, and the First International Congress on Statistics was held in Brussels, followed by a demography and hygiene congress in 1852, and congresses on ophthalmology in 1857, veterinary medicine in 1863 and so on. During the same era, the first international non-governmental agency, the International Red Cross, was founded by Jean-Henri Dunant, a Swiss national moved by his witnessing of the terrible suffering of war victims in the Battle of Solferino. The founding document of the Red Cross, which promoted neutral humanitarian assistance to wounded combatants and entered into force in 1865, became known as the original Geneva Convention. Notwithstanding its charitable mission, the original Red Cross became allied with –and even justified – militarism and state power, 'render[ing] war more easy' in Florence Nightingale's words (Hutchinson 1996).

The rise of internationalism among professionals did not inevitably lead to international cooperation in health matters. Moreover, as attested to by the rise of international journals and the exchange of correspondence in this period, professional interactions sometimes tested the dual loyalties of scientists (to their

disciplines and their countries). Still, by the mid-1800s, the repeated pandemics of cholera compelled governments to develop some sort of international agreement to prevent spread of the disease. The *cordon sanitaire*, enforced by quarantine regulations and even military force, had existed since the fourteenth century, but as international commerce grew, such blockades were increasingly seen by maritime nations as obstacles to trade.

Accordingly, an International Sanitary Conference was organized in Paris in 1851 involving 12 states: Austria, France, Great Britain, Greece, the Papal States, Portugal, Russia, Sardinia, Spain, Tuscany and the Two Sicilies. At this six-month long meeting, learned representatives could not agree on whether cholera was contagious or not. The meeting eventually produced a lengthy convention dealing mainly with the quarantine of ships against plague, cholera and yellow fever. Only France, Portugal and Sardinia ratified the document, whereupon the latter two revoked their acceptance. A similar convention, generated by the second (1859) conference, went unratified.

The early conferences ended in frustration partly because participating countries were represented by diplomats defending commercial interests rather than by scientists. But even among scientists there was no consensus concerning the causes and transmission of the diseases in question. A third conference, held in Constantinople in 1866, reviewed voluminous evidence regarding the cause of cholera, including the works of Snow and German hygienist Max von Pettenkofer, and concluded that the disease was transmitted through what we would today call the 'fecal-oral' route. At the fourth International Sanitary Conference in Vienna (1874) a proposal was made to establish a permanent International Commission on Epidemics, but was rejected (Howard-Jones 1975; Bynum 1993). Altogether 11 conferences were held over more than 50 years before agreement was reached to establish an international health organization.

Britain remained opposed to any form of regulation of its extensive trade, ready to condemn the Hajj for the 1865 cholera pandemic (Afkhami 1999), but refusing to implicate British trade routes. The British government went so far as to reverse its quarantine and isolation policies in India before the opening of the Suez Canal, so that the reduced transport time for trade to and from its most profitable colony would not be inconvenienced by disease-control measures (Watts 1997). Britain's refusal to endorse cholera conventions stemmed from more than commercial self-interest: it had its own system of 'intercolonial' (de facto international) health structures of information-gathering, research and conferences, essentially precluding the need for participation in a supranational effort with potential rivals (Maglen 2002). The United States's first involvement in the International Sanitary Conferences was its hosting, on its own initiative, of the fifth conference in 1881. With the participation of seven Latin American countries plus China, Japan, Liberia and the usual Europeans, the conference aimed to obtain international approval for the US's 1879 law to inspect and regulate vessels en route to the United States to prevent 'the introduction of contagious or infectious diseases from foreign countries'. While some delegates expressed interest in a system of disease

notification, the US proposal was struck down. Like Britain and Mexico, the United States proceeded to develop a system of epidemic informants on its own.

The sanitary conferences took on greater urgency in the 1890s: punctuated by new cholera pandemics, they resulted in international conventions in 1892 and 1893 (on cholera control along the Suez Canal and in Europe), in 1894 (specifically on the sanitary control of the Mecca pilgrimage), in 1897 on plague and in 1903 (replacing the previous conventions) (Textes juxtaposés 1897; International Sanitary Convention of Paris 1903).

At long last, the 1903 agreement led to a 1907 conference in Rome that set up l'Office International d'Hygiène Publique (OIHP). Opening its doors in Paris in 1909, the OIHP was charged with collecting and disseminating public health information (especially relating to cholera, plague and yellow fever) among participating countries, overseeing sanitary treaties and sharing 'measures to combat these diseases' (Rome Agreement Establishing the Office International d'Hygiène Publique, 9 December, 1907). Its original 23 European members subsequently expanded to almost 60, including participants from the Americas and Asia.

A formal internationalism in health had finally been established.[3] The OIHP, with a staff of barely half a dozen people, worked diligently but could hardly keep up with its stated mission. Nevertheless, progress was made – for example, in research on the most effective methods of ship crew and passenger inspection, the de-ratting of ships, an international agreement to control sexually transmitted diseases in seamen, standardization of some biological products and a study of hospital organization.

But just as health professionals had begun to collaborate across borders, Europe's uneasy peace was unravelling amidst growing militarism, nationalism and imperialist territorial and commercial rivalries. The OIHP's permanent committee representing each of the member states did not meet at all during the World War I years of 1914–18, and the OIHP was impotent in the face of outbreaks of diseases such as typhus, which infected millions of people amidst the deprivation of war-torn Europe. Even more dramatically, the great influenza epidemic of 1918–19 killed an estimated 50–100 million people worldwide, almost half of whom were already suffering from famine in Assam and elsewhere in colonial India. War conditions starkly revealed the limits to international cooperation. Only Spain, which was not a party to the war, notified international authorities about the influenza outbreak, leading to the misnomer 'Spanish influenza'. The OIHP could not intervene to decry or address the pandemic, and war secrecy impeded early and effective communication regarding the outbreak and spread of influenza among troops, including the half million US soldiers who were mobilized precisely as the epidemic was unfolding, undoubtedly exacerbating it.

[3] The International Classification of Diseases devised by Parisian statistician-bureaucrat Jacques Bertillon and adopted by dozens of countries in 1901 (first revision) was an exception to the pattern of international health cooperation failure.

The Rockefeller Foundation and the Making of International Health

Even as Europe's diplomatic crisis was threatening incipient internationalism, another development was afoot in the United States. With bureaucratization, standardization, epidemic disease control and the safeguarding of trade beginning to be addressed through nascent multi-lateral institutions, international health entered a new phase, one that combined tropical medicine concerns with on-the-ground cooperation among metropolitan powers, in particular linking industrialized and underdeveloped settings. In addition to controlling disease outbreaks, cooperation offered: the potential to stimulate development and economic growth; stabilize colonies and emerging nation-states by helping them meet the social demands of their populations; improve diplomatic relations; expand consumer markets; and encourage the transfer and internationalizing of scientific, bureaucratic and cultural values. At the same time, local elites – through participation in international health activities – could be linked to the world's great powers. International health thus proffered the promise of generating goodwill and economic development in place of gunboat diplomacy and colonial repression, all the while supporting the expansion of global capitalism.

At this time a novel kind of player, the Rockefeller Foundation (RF), emerged on the international health scene as part of a new American movement – 'scientific philanthropy'. The RF virtually single-handedly popularized the concept of *international health*, and was the major influence upon the field's twentieth century agenda, approaches and actions. Heeding rags-to-riches steel magnate Andrew Carnegie's call for the wealthy to channel their riches to the good of society by supporting systematic social improvements rather than charity,[4] the RF was founded in 1913 by oil mogul John D. Rockefeller 'to promote the well-being of mankind throughout the world'. Rockefeller, his business and philanthropic consigliere Frederick Gates (a Baptist minister), and John D. Rockefeller Junior built upon Carnegie's ideas, expanding from hospital, church and university donations to fund medical research and large-scale campaigns aimed at social melioration.

Public health became the ideal vehicle through which Rockefeller philanthropy could apply scientific findings to the public good. After uncovering the important part played by hookworm disease in the economic 'backwardness' of the US South – and the possibilities of public health campaigns to eliminate the disease through an anti-helminthic drug and public health 'propaganda' – the RF soon created an International Health Board, reorganized as the International Health Division (IHD) in 1927. The IHD befriended dozens of governments around the world by helping

[4] Philanthropists partially succeeded in staving off the US welfare state: compared to European and many Latin American countries, the private and philanthropic sectors have had since the early twentieth century a far greater role in the provision of social welfare – both limiting the size of the welfare state and giving private interests undemocratic purview over social welfare.

modernize their health institutions, promoting the importance of public health among countless populations and preparing vast regions for investment and increased productivity. By the time of its dismantling in 1951, the IHD had spent the equivalent of billions of dollars carrying out scores of hookworm, yellow fever and malaria campaigns, as well as: efforts to control tuberculosis, yaws, rabies, influenza, schistosomiasis, malnutrition and other health problems in more than 90 countries and colonies around the globe; the sponsorship of some 2,500 fellows to pursue graduate study in public health, mostly in the United States; and the founding of 25 schools of public health in North America and across the world (Fee 1987; Cueto 1994; Farley 2004).

With field officers in virtually every setting where it operated, the RF could rely on a well-honed bureaucracy to infuse – often in the face of resistance and refashioning – its particular ideas and approaches into local efforts to institutionalize public health (Birn 2006) even as each campaign became a new experiment in international health (Palmer 2010). Perhaps the greatest success attributed to the IHD was yellow fever control, involving: (a) extensive campaigns across Latin America to reduce the presence of the *Aedes aegypti* mosquito vector through use of insecticides, drainage and larvicidal fish; and (b) the development of the Nobel-prize winning 17D yellow fever vaccine in 1936, which showcased American scientific expertise to European rivals. While yellow fever campaigns ended costly commercial interruptions, the disease was, ironically, of minor epidemiological concern in Latin America, where even during epidemics, it felled a relatively small number of people, mostly newcomers.

The RF also claimed credit for eradicating malaria: in the 1930s, the introduced African mosquito *Anopheles gambiae* was responsible for an immense outbreak of malignant tertian malaria in Brazil, with more than 100,000 cases and 14,000 deaths in 1938 alone. RF efforts, supported by Brazilian nation-building strongman President Getulio Vargas, eventually eradicated *A. gambiae* from Brazil after years of larval control, demonstrating the possibility of vector eradication in the case of introduced species, or on islands, as in Sardinia (Packard and Gadelha 1994; Löwy 2001; Stapleton 2004).

While the RF was involved in country-by-country activities it was also mapping, directly and indirectly, international health's institutional framework. Its activities and organization provided the groundwork for a new international health system featuring its own bureaucracy, legitimacy, and mode of conduct. Indeed, the IHD identified its most successful contribution to be 'aid to official public health organizations in the development of administrative measures suited to local customs, needs, traditions, and conditions' (League of Nations Health Organization 1927, 743). Thus, while highly influential in shaping the enduring *modus operandi* of international health through technically based disease campaigns and transnational public health training, the RF's self-defined mark of success was its role in generating political and popular support for public health, in the creation of national public health departments across the world, and in its support for the institutionalization of international health.

The new international health, as pioneered by the RF, was neither narrowly self-interested nor passively diffusionist. Instead, the RF actively sought national partnerships to spread its public health gospel via interaction with political and professional authorities and local populations. The RF's philanthropic status, its purported independence from both government and business interests, and its limited accountability enabled its success. Its work patterns included rapid demonstrations of specific disease-control methods based on proven techniques, a missionary zeal in its own officers, marshalling national commitment to public health through considerable co-financing obligations and using fellowships to mould a cadre of public health leaders. It also carefully avoided disease campaigns that might be costly, overly complex, time consuming or distracting to its technically oriented public health model (Birn 2006). Other US philanthropies, such as the Milbank and Commonwealth Funds, Kellogg and Ford Foundations and, more recently, the Bill & Melinda Gates Foundation entered the international health arena, but none have come close to the RF's purview over the field's ideologies, institutions and practices.

International Health Institution-Building: The Inter-War Years

The Great War (WWI) and the Russian Civil War devastated much of Europe, even as new hopes for a more just world emerged from the ashes. Institution-building took two key forms: first, the establishment of international institutions that played a strategic role in planning and marshalling expertise to address world health problems, and second, the cultivation of a cooperative spirit that began to make health an international priority.

A 1920 London conference recommended that the OIHP be absorbed by the health section of the newly created League of Nations (based in Geneva), but this plan was aborted by the United States (which was an OIHP member but declined to join the League of Nations) and France (which preferred to retain the Paris-based OIHP). Nevertheless a health section of the League of Nations was permanently established in 1923, building upon a successful post-war Epidemic Commission formed to control outbreaks of typhus, cholera, smallpox and other diseases in eastern and southern Europe. With minimal official US participation, the League of Nations Health Organization (LNHO) convened health experts and institutionalized international health, providing a collective response initially to Europe's public health needs, eventually expanding its mission and reaching southwards, eastwards and westwards (Balinska 1995; Weindling 1995a).

The LNHO played a vital coordinating function for an array of activities far beyond disease control, its wide charter allowing opportunistic social activism under Polish hygienist Ludwik Rajchman's widely recognized leadership (Borowy 2009). Where there had been none just 20 years before, now three official international health organizations operated more or less separately: the PASB in Washington, DC, the OIHP in Paris and the LNHO in Geneva.

War and its aftermath led to further proliferation and fracturing of international health institutions. In 1919 Henry Davison, head of the wartime council of the American Red Cross, orchestrated the establishment of the League of Red Cross Societies (LRCS) as a federation of the national societies that had attracted thousands of committed volunteers during wartime. He envisioned the League as a truly international agency that would spearhead peacetime international humanitarian cooperation to combat epidemic disease and war-induced destitution, transcending the International Red Cross's war focus and the lack of cooperation among national societies, and modelling itself after the new League of Nations. While the LRCS soon became involved in nursing education, first aid, disaster relief, community health and youth training, Davison's dreams for a US-led coordinating international health and humanitarian agency were triply dashed by the US's failure to join the League of Nations, an overshadowing by the LNHO, and ongoing feuds with the International Red Cross (Hutchinson 1996).

The issue of responsibility for the health aspects of worker welfare also produced certain tensions. The International Labour Office (ILO) was founded in 1919 to protect workers and promote peace through social justice efforts. Charged by the Treaty of Versailles with guiding occupational health standards and the prevention of worker sickness, it expediently pulled back from involvement in medical matters after the LNHO's founding. Later, the ILO and LNHO heightened joint work, after Rajchman became more politically vocal and the onset of the Depression demanded greater coordination between the two agencies (Weindling 1995b).

A set of international initiatives and agencies focused on children's health and well-being also emerged in this period. In 1919 English social activist, socialite and teacher Eglantyne Jebb established the war relief agency 'Save the Children' to feed and rescue children in war-torn Germany and Austria. By 1921 she established the Save the Children International Union in Geneva to extend rescue efforts to children suffering from famine in Russia and elsewhere. Meantime a rival organization, the International Association for the Protection of Child Welfare, was founded in 1921 in Brussels. In 1924, Jebb was able to get the League of Nations Assembly to adopt her 'Declaration of the Rights of the Child' and to establish a child welfare committee to oversee a range of social questions relating to child protection (Marshall 1999). In 1927 the International American Institute for the Protection of Childhood in Montevideo was established with the LNHO's support as a policy and practice clearinghouse and beacon for the Pan American Child (movement and) Congresses, which had been meeting in Latin America since 1916. The Institute would give Uruguay a worldwide platform for its child rights approach to children's health in the 1930s (Birn 2005).

Even with the competing efforts and overlapping missions of these and other agencies, the LNHO became a fulcrum for international health policy in the inter-war years. Rajchman's particular interest in child health, for example, led the LNHO to carry out a series of international comparisons of the social causes of infant mortality, and motivated him to help establish UNICEF after WWII. By the late 1920s Rajchman and the LNHO were drawing on social medicine precepts that called for the political and structural underpinnings of health to be addressed

(Weindling 1995b; Zylberman 2004; Borowy 2007; Borowy and Hardy 2008) – from living and working conditions to political representation – part of the scientific basis for public health action.

The LNHO's multi-national staff and advisors pursued an ambitious agenda of epidemiologic surveillance, expert scientific research, standardization and interchange of health personnel. Its activities were far broader and more ambitious than the quarantine mandates of previous decades. In matters of outbreaks and gathering epidemiological information, the office collaborated with the OIHP. It pioneered the collection, standardization and dissemination of vital and health statistics from around the world. In 1926 the LNHO started publication of the Weekly Epidemiological Record, which has been continued to the present day by the World Health Organization. It also organized a branch in Singapore in 1925 to gather information on health conditions in Asia, and it held conferences around the world. Communication was carried out by (sea) mail, telegrams and, where possible, by telephone or two-way radio. Obtaining timely information about disease outbreaks in remote areas was a continuing challenge (Howard-Jones 1978).

The LNHO also established numerous scientific and technical commissions to set standards for drugs and vaccines; to study general subjects such as medical education, public health reorganization, housing, the operations of medical facilities and the health impact of the worldwide economic depression; and to report not only on major infectious diseases (for example, syphilis, tuberculosis and malaria), but also on malnutrition, opiates, traffic in women, rural hygiene, health insurance, cancer and heart disease (Mazumdar 2003; Borowy 2009). Health personnel were sent to other countries for training and consultation and to establish international networks of professionals, enabling the circulation of knowledge and multi-directional learning.

Despite Rajchman's capable protagonism, the LNHO became mired in League of Nations politics, and budgetary constraints meant that it could realize only part of its ambitious agenda. By the mid-1930s, operations of the OIHP and the LNHO were marred by international bickering, the chaos of the worldwide economic depression and tensions in Europe, with resultant wavering support and a worsening shortage of funds (Solomon, Murard and Zylberman 2008; Borowy 2009). And the LNHO, like most of the public health world at the time, grappled with eugenic policies seeking to sidestep population and birth control questions (Bashford 2007; Connelly 2008).

The OIHP retained its official jurisdiction over international health agreements serving, in principle, as an advisory council to the LNHO. This arrangement permitted the United States, as a non-member of the League of Nations, to keep a window open to the LNHO. Various US experts served as staff members or consultants (Dubin 1995), sustaining a rising role for the US in international health that would solidify after World War II. Another important American connection was through the RF. The LNHO was partially modelled on the RF's International Health Board and shared many of its values, experts and know-how in disease control, institution-building and educational and research work. Rather than being supplanted by the LNHO, the RF became its major patron and lifeline, funding

study tours, projects and eventually its operating budget, and it took over some of its key activities during World War II.

Both the LNHO and OIHP diminished their activities with the advent of the war, although other international health efforts continued with a military focus. For example, US authorities tested, with the RF's cooperation in Mexico, and then administered widely the use of the insecticide DDT against louse-borne typhus and to destroy malaria mosquito vectors in the Pacific military theatre, around military bases and in areas of strategic military importance (Stapleton 2004). Also receiving sanitary attention were rubber- and quinine-growing regions of Brazil and the Andes, which were needed to replace Malaysian and Dutch East Indies sources of these items following the Japanese occupation (Cueto 2008). As well, the accelerated production of newly developed sulfonamides and the antibacterial wonder drug penicillin enabled distribution to Allied soldiers in the latter years of the war. During this time, the US government also launched a large-scale cooperative sanitary effort throughout Latin America to improve diplomatic relations and forge alliances to fend off Axis influence in the region, as well as to assert its leadership in the projected post-war development and rebuilding (Vieira De Campos 2008). But other international health concerns dwindled; the research and standardization efforts of the LNHO and the public health projects of the RF (outside the Americas) had to be suspended because of the war, only to be resurrected under a new guise in the post-war period.

Conclusions: Poised for the Future?

Notwithstanding the humanitarian impulse of many of organized international health's advocates, its origins were deeply intertwined with the colonial, commercial and expansionist exigencies of the age of imperialism and the inauguration of global capitalism, engendering certain lasting metaphors, themes and influences. International health's primary efforts, then, were focused on disease control to facilitate conquest and occupation, increase worker productivity in factories, mines and plantations in metropolitan and colonial settings, fend off epidemic unrest, and ensure a smooth and uninterrupted trade system.

With the long effort to institutionalize international health on a cooperative basis cemented in the aftermath of the horrific first world war, a new optimistic focus, drawing from principles of social justice and social medicine, sought to reorient international health to address the political, structural and scientific factors underlying the health of the public, blurring boundaries between local and international goals.

But just as international health's focus was shifting from plagues towards peoples, the LNHO's aspirations were disrupted by worldwide economic and political crises in the 1930s and the onset of war. After World War II, a new geopolitical configuration took shape, one that initially unified international health efforts in the World Health Organization's technical cooperation mission

– drawing from the LNHO's ideals and organizational structures – but that almost immediately was undermined in its potential to democratize international health in an age of decolonization. The Cold War rivalry between Western (US-led) and Eastern (Soviet-led) blocs, together with the rise of the 'international development' paradigm, elevated anti-communism and narrow disease-control efforts to international health's dominant ideology. As in the past, however, this meta-narrative framing would be countered and contested in various places and moments, making the struggle over global, reductionist, charitable, top-down efforts versus integrated, sociopolitical-scientific and community- and rights-based approaches one of international/global health's enduring challenges.

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The Politics of Non-Communicable Disease Policy

Sara M. Glasgow

Throughout much of the world, chronic, non-communicable diseases (NCDs) such as cardiovascular disease (CVD), cancer and diabetes have displaced traditional enemies such as infectious diseases as a leading cause of death and disability. This health transition, as it has been termed, has become a globally entrenched phenomenon, with the World Health Organization predicting that NCDs will account for 70 per cent of all deaths by 2030 (2009a, 12).

Consequently, as the health profile of populations changes, the shift toward longer lives and increased morbidity and mortality from degenerative diseases becomes an issue for scholars and policymakers alike. However, public health researchers have tended to frame degenerative illnesses as apolitical; they are largely construed as the product of an individual's risk behaviour. Thus, so too is their solution construed as existing primarily in the realm of the private sphere, most especially lifestyle modification (Terris 1992; Fairbanks and Wiese 1997; Chopra 2002).

The privileging of risk whose locus is the private sphere, especially in the form of behaviouralism, is consonant with a biomedical paradigm long construed as distinct from public health (Duffy 1979; Fineberg 1990; Bodenheimer and Grumbach 2002). After addressing the centrality of behavioural risk in explaining NCD origins, this analysis demonstrates how a tendency toward behaviouralism reflects a breakdown of these disciplinary boundaries in the context of public health NCD management at three sites of practice: the World Health Organization (global), the Pan American Health Organization (regional) and public health policies in the United States, United Kingdom and Sweden (state). In so doing, the analysis demonstrates how the hegemony of biomedicalism in public health depoliticizes that discipline's approach toward non-communicable illness; moreover, it sets the stage for a concluding critique that demonstrates how even attempts at structural analyses of NCD causation (as in the field of social epidemiology) fail to account for how ingrained political values and norms – particularly those consonant with neo-liberalism – shape both our understanding and management of NCDs.

NCDs and the Risk Mentality

A feature of the public health discourse that facilitates the construction of NCDs as apolitical is the framing of the origins of such problems in a complicated web of interrelated risk factors – many of them behavioural in nature. Contemporary public health is inextricably linked to risk analysis, where risk is defined as the 'probability of an adverse outcome, or a factor that raises this probability' (World Health Organization 2002c). This emphasis on risk has been charted in Skolbekken's MEDLINE survey of medical and public health journals from 1967 to 1991. He found that the number of articles with 'risk' as either a title or abstract term increased significantly over the time frame, from less than 1000 risk-related articles published in 1967 to over 80,000 published in 1991 (Skolbekken 1995, 296). This trend, while observed in generalist journals such as *The British Medical Journal*, *The Lancet*, and *The New England Journal of Medicine*, was far more pronounced in specialist publications, most notably in epidemiological journals. While overall the increase in risk articles went from 0.1 per cent in 1967 to 5 per cent in 1991, results for the epidemiological journals indicate a much more pronounced rise – from less than 5 per cent in 1967 to over 50 per cent by 1991, with the majority of the growth occurring in the 1980s; furthermore, two of the most frequently risk-related illnesses analysed were the 'lifestyle' diseases of coronary heart disease (CHD) and cancer (Skolbekken 1995, 295).

To further illustrate this hallmark of contemporary epidemiology, a keyword search performed on October 24, 2010 in a single database – Ebsco Academic Search Complete – for both 'risk factors' and 'epidemiology' generated over 16,000 hits in peer-reviewed journals, over 9,000 of which were published in the last three years alone. These articles identified risk factors for a range of conditions, such as CHD, asthma, cancer, AIDS, psychosis and depression, epilepsy, anemia and many more. As Petersen notes, 'epidemiology has become so central to the public health endeavour of identifying, reducing exposure to, or eliminating "risks" that it has become almost synonymous with the public health enterprise itself' (1998, 197).

Chronic Disease Risk and the Privileging of Behavioural Factors

That risk factor analysis is a dominant feature of modern public health is well established, and not without reason. It does, after all, provide direction to global and national health initiatives:

> Risk assessment can provide an invaluable, overall picture of the relative roles of different risks to human health; it can illuminate the potential for health benefits by focusing on those risks, and it

> can help set agendas for research and policy action. (World Health Organization 2002c, 4)

It also facilitates an approach to disease etiology that emphasizes more nuanced, multi-factorial models of causation – a so-called web of causation whereby diseases result from the interaction of structural variables, characteristics of the host (patient), and if relevant, the agent (disease organism). For the epidemiologist, causation is not only multi-faceted, but itself exists in the dynamic and continuous interactions of different 'causative factors', not in the elements themselves (Le Riche and Milner 1971; Beaglehole and Bonita 1993; Krieger 1994). In this regard, causation cannot easily be attributed to a single factor, but rather is a result of the *confluence* of different explanatory elements (McMahon et al. 1960).

Despite the promise of this approach to explaining the origins of disease, the health community's approach to chronic disease has largely focused on risk factors associated with individual bodies – genetic factors certainly, but most especially behavioural choices (Terris 1992; Chopra 2002; Beaglehole and Yach 2003). Drawing upon government documents associated with two national health initiatives – Canada's 1974 Lalonde Report and the United States' Healthy People (1979, updated 2000), epidemiologists Fairbanks and Wiese conclude that:

> Public health efforts in disease control evolved from a primary focus on the avoidance of communicable diseases toward one that recognized the role of risk factors, particularly personal risk behaviors, and the responsibility of the individual in preventing illness … from the latter 1970s on, health program planners have placed considerable emphasis on an individual's ability to choose a healthy lifestyle, and thus reduce the chances of early death from chronic disease. (1997, 88–90)

This change toward risk models emphasizing behavioural choice represented a significant break from public health's historical commitment to a population perspective. For many years, it was this emphasis on population and macro-structures that distinguished it from the clinical practice of medicine.

Two Paths Converged: Public Health and the Biomedical Model

Historians as well as medical and public health practitioners have demonstrated that boundaries between these two disciplines were well guarded throughout much of the twentieth century (Duffy 1979; Rose 1985; Fineberg 1990; Fee and Acheson 1991; Bodenheimer and Grumbach 2002). While characterized by several differences, one of the most relevant for this analysis is their claimed distinction as to the mechanisms of disease prevention. According to Bodenheimer and Grumbach:

> Chronic disease prevention may be viewed from two distinct perspectives, that of the individual and that of the population. The medical model seeks to identify high-risk individuals and offer them individual protection, often by counseling on such topics as smoking cessation and low-fat diet. The public health approach seeks to reduce disease in the population as a whole, using such methods as mass education campaigns to reduce drinking and driving, taxation of tobacco, and labeling of foods … . (2002, 115)

A key distinction, then, between the biomedical model of disease prevention and that of public health exists at the level of analysis and intervention: individuals or populations. Although Bodenheimer and Grumbach offer a fairly contemporary perspective, an examination of the evolution of public health practice over the last 50 years reveals a distinctly different picture, one in which public health has come to embrace the individualist focus inherent in the biomedical model. While it is beyond the scope of this project to go into an extensive evaluation of this historical evolution, it is worth establishing how such a change occurred.

With a mid-twentieth century shift in the focus of western epidemiology and public health from infectious diseases to NCDs, and concomitant early studies that established smoking and serum cholesterol as linked with CHD onset, public health began to adopt models of causation which emphasized behavioural risks associated with individuals' lifestyles. Thus, Susser and Susser identify this era as one of 'chronic disease epidemiology' characterized by an analytical commitment to risk assessment at the individual level in populations, and a praxiological commitment to prevention dominated by lifestyle modifications (1996, 669). The effect of these changes in epidemiological models of causation was such that 'public health became increasingly accommodationist to the authority of biomedicine' (Brandt and Gardner 2000, 711).

With the analytical tools and practical means of providing public health growing much closer to the individualist focus inherent in biomedicine, the field of public health became decoupled from its historical focus not only on populations, but also on non-behavioural determinants of disease (Mishler 1981). On this point, Brandt and Gardner note:

> Issues of socioeconomic status, ethnicity, race and culture, personal psychology and gender were no longer considered significant factors in disease causation as individuals became patients in an expanding tertiary health care system. (2000, 711)

While Brandt and Gardner are overzealous in arguing that public health no longer considers structural factors relevant, they do raise a valid point insofar as public health, by adopting one of the foundations of clinical medicine has come to privilege behavioural risk models of disease and prevention.

Those who would maintain the distinct boundaries of these fields miss the embeddedness of certain elements of the biomedical model in modern public health. Specifically, two core tenets of biomedicalism – a focus on individuals and the risks associated with behavioural choice – have increasingly become predominant themes in the knowledge-base and practice of public health. Thus, contrary to the assertions of Rose (1985), Fineberg (1990) and Bodenheimer and Grumbach (2002) these are not discrete approaches. Public health, by seeking to transform risk propensities of individual bodies through the refinement of one's decision-making process, adopts a population approach only insofar as it construes a population as a collection of individuals. The earlier examples of population-directed prevention strategies suggested by Bodenheimer and Grumbach – health education, taxes on products like tobacco, mandated food labels – are all 'population' strategies which operate at the site of the individual body by aiming to alter one's decision calculus. This is consistent with those aspects of the medical model whereby a physician, after identifying an at-risk patient, counsels that person to practice behaviours consistent with reducing disease risk.

The Individual and Behavioural Risk in Public Health: Three Sites of Practice

Having established the predilection of public health for approaching chronic disease in a manner consistent with a focus on behavioural risk factors, it is important to chart how this privileging manifests itself at multiple sites of practice. A closer examination of the public health discourse reveals that commonly advocated strategies for combating chronic disease operate by 'supporting positive behaviour changes and making the healthy choice the easy choice' (Gill et al. 1999, 80). Often these strategies are pursued in the context of prevention, often perceived to be a more cost-effective measure than treating acute problems once they have manifested (Centers for Disease Control and Prevention 2003b, 7). Even so, it is worth noting that prevention itself is not necessarily a guarantor of cost-effectiveness *vis-à-vis* intervention in the long-run; for example, Cohen and Neumann concluded in their study on the cost-effectiveness of preventative care that longer life expectancies as a result of preventative care may actually increase overall expenditures (2009, 6). Despite the fact that the relative cost-effectiveness of prevention as opposed to intervention is a nuanced area of debate, in practice public health approaches to NCDs have tended to emphasize that classic adage that an ounce of prevention is worth a pound of cure. This is evidenced at the state, regional and global levels of public health practice, both in terms of how the etiology of chronic disease is explained, as well as how programs to combat NCDs are implemented.

State: The United States, Britain and Sweden

These recurring themes of behavioural risk and individual responsibility are evident in state health programmes whose normative foundations range from neo-liberal to the traditionally social democratic. In the United States, the Centers for Disease Control's Agenda on Chronic Disease Prevention makes very clear the primary fount of NCD origins, and the means by which they are best prevented or contained:

> [T]heir origins are grounded in health-damaging behaviors practiced by people every day for much of their lives. Evidence indicates that with education and social support, people can and will take charge of their health. The national agenda must call for programs that focus on individual responsibility and behavior change … . (Centers for Disease Control and Prevention 2003a, 8)

The CDC outlines specific programs, such as school health initiatives that educate young people about the dangers of alcohol, and provide guidance on healthy eating and exercise. Other recommended programs target risk factors such as tobacco; the CDC recommends the establishment of 'quit lines' and greater involvement of primary health care providers in advising patients to quit or not to take up smoking. And on the risk factor of sedentary lifestyle, strategies include placing motivational signs near elevators to encourage people to make the 'healthy' choice of using the stairs (Centers for Disease Control and Prevention 2003b).

In its 2003 update on the National Service Framework for Coronary Heart Disease (NSF CHD), the British Health Service reiterated its goal of reducing mortality from coronary heart disease and stroke in people under the age of 75 by the year 2010 (National Service Framework for Coronary Heart Disease 2003). While several dimensions were addressed, the cornerstone of prevention efforts outlined by the NSF were clustered around the risk factors of tobacco usage, physical inactivity and poor diet. Specific components of the NSF action plan including expanding funding for anti-smoking campaigns and developing a referral system whereby doctors can advise at-risk patients of exercise trainers and facilities in their area (National Service Framework for Coronary Heart Disease 2003).

Similarly, the 2004 Wanless Report on the state of population health in Britain elucidates the key principle of achieving chronic and other disease prevention: 'Individuals are ultimately responsible for their own and their children's health and it is the aggregate actions of individuals, which will ultimately be responsible for whether or not such an optimistic scenario … unfolds' (Wanless 2004, 4). When individuals choose poorly, the report concludes that it is because of a failure to have the proper information to make wise decisions, an inaccurate calculation of costs and benefits, and/or social context failures that glamorize unhealthy lifestyles (Wanless 2004, 152). The strategies recommended for dealing with these 'failures' involve in the first instance intensifying health education efforts to improve public awareness of chronic disease risk factors. Framed as 'health literacy' campaigns,

these are viewed as critical because they not only educate the public about prevention, but also about how to manage an illness once acquired:

> The increasing importance of self-care, when individuals monitor and treat their own conditions, means that the ability for patients to understand and then act upon information about their condition, medication and personal surveillance (such as monitoring their blood glucose levels) is crucial to good health outcomes. (Wanless 2004, 159)

Other instruments advocated to encourage individuals to better manage their health include tax schemes to create incentives for individuals to abstain from the consumption of damaging products (as in a tobacco tax) and voluntary partnership agreements that outline responsibilities of patients and physicians in treating a chronic disease or 'exercise prescriptions', where at-risk individuals present vouchers at local gyms to get necessary activity (Wanless 2004, 171–9).

More than either the US or Britain, Sweden has articulated a public health strategy that considers behavioural risk factors in context; the 2003 National Public Health Strategy identified 11 objectives to improve the overall health of the population, and to combat chronic diseases in particular. While five pertained to lifestyle choices such as diet, activity and the use of medical services and screening opportunities, the remainder considered structural factors such as economic security and a safe, clean environment (National Institute of Public Health – Sweden 2003). Nonetheless, the greatest proportion of the disease burden in Sweden is attributed to lifestyle factors. According to the National Institute of Public Health (NIPH), of the 10 most impactful risk factors contributing to ill health, seven were the products of lifestyle choice, with smoking, alcohol and obesity as the top three factors accounting for 15 per cent of the disease burden (National Institute of Public Health – Sweden 2000, 17). Of the risk factors that the NIPH is charged with combating through specific programmes, the vast majority are behaviourally based: tobacco, STD/HIV, alcohol and narcotic drugs, diet and physical activity (National Institute of Public Health – Sweden 2000, 17).

These programmes culminated in the preparation of a plan for disseminating health information about lifestyle risk factors (National Institute of Public Health – Sweden 2004, 26), and more recently the NIPH has lent even greater emphasis to the role of lifestyle modification. Consider, for example, the issue of physical activity. In 2010 the NIPH coordinated with the Professional Associations for Physical Activity to substantially update (and translate to English) the second edition of Physical Activity in the Prevention and Treatment of Disease, a text designed to be both a handbook for healthcare professionals and a textbook for courses in multiple health fields. Charting the evolution from novel approach to established doctrine, the editorial committee asserted:

> The first edition felt mostly like an inciter of interest in the area, but those of us who worked with the second Swedish and now the first English edition still feel that the area is just as current and exciting

> as then, while at the same time noting that the handbook is now perceived as an established concept in Swedish healthcare. (2010, 7)

Especially salient here are two factors: first, that an explicit public health agency such as NIPH so strongly promulgates lifestyle interventions grounded in the biomedical model; and second, the notion of evolution such that it is only fairly recently that such a handbook on lifestyle modifications has entrenched itself as cornerstone of public health.

With these issues in mind, NCD prevention efforts in Sweden have also focused on working through individuals to reform their lifestyle choices. In an effort to heighten its cancer prevention efforts, the Swedish government implemented the Smokefree Children initiative in 1992 to reduce children's exposure to tobacco. The government also developed a programme to tackle another risk factor: physical inactivity. 'Sweden on the Move' began in 2001 as a programme to promote regular exercise among sedentary individuals. In a review of the programme, the NIPH declared it to be an important element in a comprehensive disease prevention strategy (National Institute of Public Health – Sweden 2002).

Regional

To demonstrate the pervasiveness of individualism and a behavioural risk mentality in public health NCD programmes, one must approach the issue through different levels of analysis. In addition to state-level public health programmes, regional organizations have demonstrated these same tendencies. The Pan American Health Organization's CARMEN Project (the English translation for the CARMEN acronym is: Set of Actions for the Multifactoral Reduction of Non-Communicable Diseases), begun in 1995 to address the prevalence of NCDs in the Americas, similarly privileges individual bodies, behavioural explanations and prevention strategies that educate people to take better care of themselves. The purpose of the programme 'is to improve the health status of the population by reducing the prevalence of the risk factors associated with NCDs. This is attained through integrated health promotion and disease prevention at the community level and their health care services' (Pan American Health Organization 2011). Despite a rhetorical emphasis on community, programmatic elements designed to mitigate risk are oriented toward the individual and the reform of their behaviour.

Thus, while the CARMEN project recognizes the role of such 'contextual' factors as poverty, gender (in)equality and environmental conditions in the genesis of certain cases of NCDs, '[s]moking, inadequate diet, and physical inactivity are considered key risk factors for the preventive action of CARMEN. Therefore, CARMEN acts in the prevention of these risk factors and, in tandem, promotes protective patterns of health' (Pan American Health Organization 2011). These factors are targeted through several channels – the development of public health policies, community action programmes and the expansion of NCD prevention

efforts in the health service sector – all of which are designed to effect changes in personal health status along several dimensions:

- biological conditions, to include blood pressure or cholesterol levels
- consumption behaviours, to include smoking, diet and use of alcohol
- health promotive or protective behaviours, such as regular exercise or using seatbelts
- regular screening measures, to include women's exams or annual physicals, and
- psychosocial factors, such as stress, social support and work environment (Pan American Health Organization, 2011).

With the exception of psychosocial features, which directly consider the individual in a larger structural context, the majority of these areas operate at the level of the individual and the choices they make. To the extent that the procedures for analysis and action do not address the political and economic dynamics that give shape to such choices, the public health community at this level, as well, reifies the construction of NCDs as apolitical phenomena.

Global

The World Health Organization has been concerned with the burdens posed by chronic disease for some time, and have long recognized the role of behavioural risk factors in generating disease outcomes:

> Epidemiological studies in the 1970s and the early 1980s defined that the major risk factors for CVD (tobacco, unbalanced diet and obesity, physical inactivity, alcohol abuse) may also be associated with other NCD such as some types of cancer, chronic obstructive lung diseases, diabetes, etc. The realization that these risk factors were common to the major NCD and that they are rooted in lifestyles … which can be modified in the community, paved the way for the landmark 1985 Resolution of the World Health Assembly on NCD. (World Health Organization 1995, 3–4)

The 1985 resolution charged member states with applying existing scientific knowledge about NCD origins to develop prevention efforts aimed at educating individuals about risk and steps to reduce it (World Health Organization 1985). In 1995, recognizing the increased burden that NCDs posed not only in industrialized countries, but also globally, it called for integrated prevention of chronic illness in the context of health system reform (World Health Organization 1995). In 1997, NCDs provided the theme and substance of the annual World Health Report, a publication that calls attention to the most challenging of global health issues. Later,

the WHO developed a series of concrete proposals for treating NCDs in health systems not designed to respond to them (World Health Organization 2002a). That same year it generated a study that focused on the special burdens NCDs place upon women (World Health Organization 2002b). More recently, it formulated a strategy to combat major risk factors associated with NCD onset, adopted in a resolution in 2004 (World Health Organization 2004).

With regard to the 2004 initiative, the risk factors identified as bearing the brunt of responsibility for NCD onset are largely grounded in the private decisions of individuals. The WHO concluded:

> For noncommunicable diseases, the most important risks included high blood pressure, high concentrations of cholesterol in the blood, inadequate intake of fruit and vegetables, overweight or obesity, physical inactivity and tobacco use. Five of these risk factors are closely related to diet and physical activity. (World Health Organization 2004, 5)

In order to reduce the prevalence of these risk factors, the strategy calls for a series of member-state initiatives to combat NCDs by addressing these risk factors. Specific actions advocated include establishing national dietary and physical activity guidelines; providing information through heath education initiatives; promoting 'health literacy' in adult education programs; and labelling of nutrition information on food products (World Health Organization, 2004).

These policy prescriptions, while exercised through public health and other government institutions, still construct the problem of NCDs as one that can only be ultimately remedied through prudent living. Thus, to the extent that these strategies exhibit a political dimension, it is via a limited governmental role of information broker:

> Governments have a primary steering and stewardship role … Governments need to consider actions that will result in provision of balanced information for consumers to enable them easily to make healthy choices, and to ensure the availability of appropriate health promotion and education programmes. (World Health Organization 2004, 11–12)

This role does not primarily extend to the regulation of political, social and economic processes that give rise to unhealthy behaviours, but to the dissemination of knowledge to produce informed consumers. From such a perspective, both problem and solution are ultimately grounded in our bodies and choices, and are thus not political in themselves. As such, these NCD prevention strategies function to obscure the 'public' aspect of public health, devolving it into a series of manoeuvres that act on and through individuals, not populations and the political economy in which they are situated.

The emphasis on the individual and on behaviouralism extends not only to how NCDs are explained and combated, but also to how they are tracked and monitored. The WHO has compiled an online disease information database that 'has, for the first time, assembled in one place, country level risk factor data stratified by age and sex, with complete source and survey information' (World Health Organization 2009c). It tracks a number of major NCD risk factors for 180 countries, compiled from over 2,800 sources. These risk factors are overwhelmingly behavioural, and include: alcohol consumption, fruit and vegetable intake, diabetes prevalence, raised cholesterol, physical inactivity, overweight and obesity, blood pressure and tobacco use. That NCDs are framed and tracked in a way that puts the spotlight on individual responsibility only serves to further demonstrate how the discipline of public health continues to depoliticize chronic disease.

Through this cursory examination of different sites of public health practice – global, regional and state – we confront the pervasiveness of the risk mentality, a focus on individual bodies and the tenets of behaviouralism in public health approaches to NCDs. If it is a core element of mainstream public health, though, it is not without challenge at the margins. I turn now to addressing the critique posed by social epidemiologists, and to clarifying how the critique in this analysis is categorically different.

The Question of Social Epidemiology and the Political Analysis of Public Health

Even given the pervasive evidence of the public health community's tendency to construct NCDs as problems of behaviour, some may point to existing epidemiological studies that articulate the role of socioeconomic factors in the prevalence of NCDs. Sceptics may identify a number of publications over the years that have identified a persistent and strong relationship between socioeconomic disparity and ill health. Dimensions of disparity include such elements as general income level (Pappas et al. 1993; Sorlie et al. 1995; McDonough et al. 1997); income inequality (Smith et al. 1990; Wilkinson 1996; Kawachi et al. 1997; Wilkinson 1997; Lynch et al. 2001; Massing et al. 2004); educational attainment (Guralnik et al. 1993; Elo and Preston 1996); and gender (Popay et al. 1993; Ballantyne 1999; Baunach 2003).

While many of these studies focus on the relationship between socioeconomic variables and all-cause mortality, several highlight the implications for specific NCDs, such as: ischaemic and other types of heart disease, cancer and chronic liver diseases (McIsaac and Wilkinson 1997); obesity (Essig 2002); and diabetes (McKinlay and Marceau 2000). Whether directed toward explanations of all-cause mortality or particular diseases, this social epidemiology perspective makes very clear how economic, gender and other disparities can impact health; however, one must not assume that these constitute a political critique, as it is understood here.

Such a political account would take one of two forms. The first is the identification and exploration of the political determinants of health, or how the norms and ideologies that permeate systems of power and the vested interests of key stakeholders (for example, public health researchers, policymakers) condition the well-being of the population. These systems of power include not only the formal institutions of the state, but also the economy and modes of social organization. Thus, a political account involves interrogating the values and principles that ultimately give shape to the social and economic environments injurious to health – not the environments as determinants themselves, which is the province of social epidemiology.

To illustrate this distinction, consider the case of income inequality. Scholars such as Smith et al. (1990), Wilkinson (1996) and Lynch et al. (2001) have all identified income inequality as a major risk factor for ill health. In these analyses, however, there is no interrogation of the factors that produce income inequality or how public health efforts might respond to those. What political norms are valorized such that inequalities are tolerated? How are these embedded in the institutions and practices that reify such inequalities? And to the aforementioned point about the interests of stakeholders, how might changing such institutions to redistribute more equitably cause resistance amongst those who stand to lose the most from doing so? A political analysis of this kind might consider how the valourization of such tenets as individual autonomy and efficiency (as opposed to collective responsibility and equity) is exhibited in the kinds of economic and social institutions and practices that facilitate health outcomes. It might also consider the political decision-making process by which grants or other research funds are allocated to health programs that emphasize individual, as opposed to collective responsibility.

But to engage these questions is to pursue an entirely different task, one that is outside the purview of mainstream public health practice. Fuelling this is perhaps a sense of futility: aiming public health efforts 'upstream' at the forces that organize our societies is too Herculean a task. Syme, though he too falls back on class as a determinant without addressing political forces which pattern class inequalities, addresses this very issue:

> Social class has been an overwhelmingly important risk factor for disease since the beginning of recorded time, and it's related to virtually every cause of disease. We have all made this observation, but we're not sure what to do about it. If revolution is the only useful intervention to the ills of social class, it is not surprising that public health professionals have instead pursued more straightforward research that such as the relationship between physical activity and diabetes. (2004, 2)

In this regard, the social epidemiology perspective highlights significant, non-behavioural factors conditioning chronic disease patterns and provides a valuable contribution that expands the analytical horizons of public health. Moreover,

there are indications that such a perspective is achieving a more explicitly visible place in the realm of health policy; in 2008, for example, the World Health Organization's Commission on the Social Determinants of Health (see Bell et al., this volume) issued a comprehensive report that articulated recommendations aimed at reducing health disparities by focusing upstream on the major drivers of those disparities – thus balancing the prevailing behavioural risk paradigm. These recommendations were grouped under the broad themes of improving daily living conditions (most especially for women and girls); reducing existing income and resource disparities that contribute to poor health; and developing accurate means of evaluation and assessment such that progress could be charted. One of the key goals articulated was to prompt individual countries to more directly incorporate a structural perspective into their public health programmes 'so that by 2013 at least 50 per cent of all low-, middle-, and high-income countries have a committed plan for action to reduce health inequity through action on the social determinants of health, with evidence that they are implementing the plan' (Commission on Social Determinants of Health 2008, 198).

This growing (re)awareness within the public health establishment that structural sites of intervention matter is most certainly encouraging; but in focusing closely on class, or on income and other resource inequalities, we are still left with the underlying issue of the political origins of those inequalities. As illustrated above in the example on income inequality, or in the WHO Commission's recommendations pertaining to structural drivers, social epidemiology does not pursue an avenue of inquiry that explores the political origins and determinants of those socioeconomic factors.

The second type of political analysis of the public health of chronic disease refocuses our attention away from determinants of health outcomes to the practice of public health itself. That is, it directs us to consider the way that political values, norms, or ideologies manifest in the way that diseases are understood and their causes explained; it also calls us to consider how these values manifest in the programs developed to prevent and treat NCDs. It is an exercise that encompasses the scholarship of individual researchers, as well as the organization and practices of national public health agencies – in essence, putting the discipline of public health itself under the microscope.

Neither do social epidemiologists engage in this kind of political analysis. Even as they consider socioeconomic factors like class, gender or ethnicity, social epidemiologists are still epidemiologists, concerned with the study of the determinants of disease in populations. As a discipline, epidemiology is focused outward – on the explanation and ultimate containment of disease phenomena – not inward in reflexive, critical analysis of its own assumptions, values and methods. This should not be construed as a slight, rather a recognition that one should not expect epidemiologists to pursue a line of inquiry that is outside the purview of their disciplinary training.

This lack of attention to the political underpinnings of the public health discipline is also informed by an adherence to the idea that epidemiologists and

other public health practitioners are engaged in a science that is ultimately value-free and inherently neutral. McKinlay and Marceau note:

> Public-health activities, many believe, ought to remain a value-free, mainly scientific activity, devoid of any partisan preference. Politics, by contrast, can be viewed as a distasteful activity involving powerful self-interested pressure groups, using state power to achieve particular ends, and money and party pressure to affect nationally important decisions. (2000, 761)

They go on to critique this view of the political – that it cannot be reduced to the machinations of parties and interest groups to exercise power – to suggest that public health is inextricably bound to politics. However, they do so from the perspective of focusing on determinants: 'To disregard these sociopolitical determinants of health is to relegate public health once more to the prevention and promotion of individual risk behaviours (which are mere epiphenomena)' (McKinlay and Marceau 2000, 761).

While attention to the need for this kind of research is laudable, it is again only one avenue of inquiry: one need not account for the determinants of disease to provide a political analysis of public health. In this vein, it should be clarified that the main goal of this analysis is not aimed at providing an account of these determinants of NCDs. Rather, its central concern is to demonstrate how the cohesive yet subtle, and often unconscious, attempts by the public health community to depoliticize NCDs are themselves a political exercise: one that is shaped by the tenets, doctrine and programmes of neo-liberalism – or that ideology that emphasizes the private sphere, autonomy and freedom accrued to individuals, and a limited role for the state in all matters of political and economic regulation and intervention. The suitability of public health, engaged as it is with the de-politicization of chronic disease, as a sphere to manifest the neo-liberal impulse is apropos. As Beck has concluded: 'neoliberalism is *high* politics which presents itself as completely non-political: the absence of politics as a revolution!' (Beck 2000, 122).

Conclusion: The Problematic Nature of De-politicization

Through sustained examples of NCD public health endeavours at the global, regional and state levels, we come face-to-face with a clear breakdown in the disciplinary boundaries between biomedicine and public health; it is a move which is given logic by the willingness of public health as a discipline to embrace the analytical and praxiological realm of the individual body and the largely behavioural risks that accrue to it.

Such a skewed focus suggests a major weakness in dominant public health approaches to NCD governance. One of the greatest limitations of the individualist and behaviouralist impulses in contemporary public health is that they obscure

how these lifestyle choices are themselves conditioned and exacerbated by larger structural forces and processes – whether political, economic or cultural in nature. Risk behaviours like smoking and eschewing physical activity are more than inputs into disease onset, they are to a certain extent outputs of the greater environment in which people live. As mentioned, social epidemiologists are willing to entertain these larger structural factors, but themselves often set aside the political drivers that give shape to such socioeconomic structures and practices. As the quotation from Syme illustrates, the social paradigm is not the dominant one in contemporary public health. And so long as that discipline embraces the tenets and models of biomedicine, the result is a de-contextualization of NCDs that fundamentally depoliticizes the disease experience.

Some might view this as a good thing – that matters of illness are best left to a clinical relationship between patient and doctor, and that public health is not and should not be approached as a site of political analysis. But to close off avenues of what phenomena are properly examined from a political context is a dangerous exercise. For it not only stifles the intellectual interrogation of the inherent assumptions and values of disciplines like public health, but also does a disservice to those at-risk individuals who could benefit from a more comprehensive approach. Zola stresses this aspect by asserting that 'the labels health and illness are remarkable "depoliticizers" of an issue. By locating the source and the treatment of problems in an individual, other levels of intervention are effectively closed' (1994, 400). This view is echoed by Crawford, who views the prevailing emphasis on behavioural risks as inhibiting an understanding of the social determinants of disease (1994, 384).

Crawford's approach is not only to critique the 'victim-blaming' mentality inherent in these models, but also to particularly stress the role of class structure as a disease determinant. In his critique, we again see recourse to invoking those broad, non-behavioural factors that influence disease outcomes – in this case, lower socioecononomic status. However, other structures and environmental factors bear greater consideration as well – changes in the global economy and cultural and technological diffusion across borders to name a few. These are elements that merit greater incorporation into the prevailing analytical models of public health, and in major NCD prevention and management strategies.

Doing so would not absolve the individual of responsibility. Behavioural choices do matter, and chronic disease is an experience necessarily grounded at one level in an individual's body. But that 'at-risk' person or patient is part of a larger social body, as well. To downplay the influences of that environment on behavioural choice is to lead to much more narrow programmatic strategies that are at odds with public health's historical focus on population health achieved via population-directed strategies.

What, then, are the consequences of these trends for the future of international public health policy? In September, 2011, the United Nations held its first High Level Meeting of the General Assembly on the issue of non-communicable disease, with agenda items that include improving national capacities for preventing and controlling NCDs, and fostering international cooperation toward that same end

(United Nations General Assembly 2010). As noted in the editor's introduction, this event offered the opportunity to more explicitly elevate and frame NCD policy as an element of the political process, as indicated by Geneau et al.; indeed, they argue that a truly holistic approach to NCDs must account for structural drivers such as socioeconomic inequities that contribute to disease outcomes (2010). This perspective is echoed by Magnusson, who asserts the need for a more holistic approach with regard to the global health governance of NCDs. Using the example of diabetes, he identifies a prevailing weakness in the conventional models applied to NCDs:

> In order to respond effectively to the rising burden of diabetes in developing countries, it is not enough to point to the lifestyle risk factors that cause diabetes in individuals. Instead, policy makers need to focus on the factors that shape patterns of behavior and to ask: why is society *expressing diabetes*, and its behavioral risk factors, now? (Magnusson 2010, 491) [emphasis in original]

Thus, to the extent that the health experts participating in the UN meeting (and future sessions) frame the analysis and programmatic strategies of NCD prevention and treatment in explicitly political terms, we may yet hope to see a shift in the discursive space surrounding this issue. Even so, as argued earlier, this perspective is yet one still largely at the margins of contemporary public health. As biomedicalism continues to transform public health's ontological, epistemological and normative commitments to population, one must expect that most experts who are called upon to frame the issues to policymakers, government officials and international body representatives will do so within the context of the dominant paradigm.

Because this paradigm entrenched in risk mentality, behaviouralism, and individualism is hegemonic within public health, it is all the more important to have those voices at the margin, contesting for a more democratic analytical and programmatic space on the issue of NCDs: to attend not only the structural determinants of ill health that is the province of social epidemiology, but also to demonstrate the latent political norms that suffuse the supposedly objective science of public health. Policy can only reflect the state of knowledge and understanding of the bodies of expertise that guide it; thus, if international NCD policy is to better attend to the challenges posed by chronic illness, it stands to reason that the discipline of public health itself is due for a close examination under the analytical microscope. This chapter seeks to serve as an early step in that direction.

It should also be noted that while this analysis has focused on the politics of public health approaches to NCDs, themes of behaviouralism and lifestyle choice may also be relevant to the lingering challenges posed by infectious or communicable disease. Certainly, behavioural risk has long been associated with sexually transmitted infections (STIs) such as HIV/AIDS, thus prompting advocacy for safer sexual practices like condom use. Moreover, as efforts increase to identify that magic bullet, a vaccine to prevent the spread of HIV, it serves to only reify the

localization of risk in the individual body – not in the structural conditions such as poverty or cultural practices that facilitate its spread in many world regions.

A more detailed examination of the implications of de-politicization for infectious disease must be deferred for another time. Notwithstanding the immense challenge that infectious diseases still pose to global health, NCDs both account for the majority of global death and disability (as mentioned), yet at the same time, have been off the analytical radar for those working within international relations (Glasgow 2008). Thus, attending to how public health as a discipline construes the risk domain of NCDs may also allow us to understand how, despite their entrenched global nature, NCDs have heretofore remained an unexplored issue for scholars of international health politics who rely upon that public health knowledge.

In raising these issues, the overall thrust of this critique is to suggest how an excessive focus on risk factors, and most especially those pertaining to individual bodies and lifestyle choice, creates a view of NCD causation and prevention that is extremely narrow and that closes off avenues of intervention at other levels of society. Yet another practical outcome is implied by this focus. For a discipline that is so oriented toward the identification and management of risk, public health is remarkably myopic about the risk such an approach presents for *itself*: the more that the origins and interventions for chronic disease management devolve to prompting individuals to engage in better self-care, the greater the risk that public health ceases to be a truly public endeavour.

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Anthropology and Global Health

Vinh-Kim Nguyen

The relationship between anthropology and global health has been like a dysfunctional relationship that has nonetheless endured. Despite constant bickering and threats to walk out, each partner remains unable to envisage life without the other. On one side, medics in foreign lands rely on anthropologists to address what they have understood as 'cultural barriers' to biomedical intervention. On the other, anthropologists have found it difficult to engage with populations they study without confronting the biological and social conditions that afflict them. This intimate and at times conflicted relationship dates back to the infancy of both fields. Both anthropology and biomedical public health came of age almost a century ago in the upheaval following the First World War and the apogee of colonial expansion. Wars and colonialism linked questions of public health with the exercise of rule beyond the borders of European homelands. As a rudimentary public health apparatus began to turn to questions of 'native' health, anthropology emerged as a systematic approach to the study and understanding of those whose health was of increasing concern to colonial governments. Ever since, anthropological insights have informed global health programmes (Nichter 1989). In turn, global health programmes have served as a platform for anthropological research.

This chapter is divided into two parts. The first section provides a theoretical framework for understanding global health. The second section will introduce anthropology as a discipline before specifically reviewing anthropology's main contributions to global health.[1] Ethnographic insights have illuminated how social structure – particularly social inequality – influences health outcomes, adding to findings from social epidemiology. Second, anthropology has provided a critical evaluation of global health programmes and processes and, more broadly, the emergence of global health as a science and a discourse, raising new questions relevant to addressing the global health challenges of the future. In this chapter, I will first trace this entangled genealogy in order to give the historical context to each field's problematics, methodologies and practices of intervention before going

[1] See Janes and Corbett 2009 for a recent review.

on to describe more contemporary engagements and contributions of anthropology to global health.

Understanding Global Health: Globalization and Inequality

Initially coined by American think-tanks anxious to re-examine US national security in the post-cold war era, 'global health' is a term that has gained currency in the last 15 years, having gradually become preferred over the term 'international health' (King 2002; Ingram 2005; MacFarlane et al. 2008). The new appellation draws attention to three significant innovations and discontinuities from earlier approaches to addressing health issues outside wealthy economies concentrated in the global north (Brown, Cueto and Fee 2006; Adams, Novotny and Leslie 2008), all of which have garnered anthropological scrutiny. First disease threats and responses to them are increasingly trans-national, as evidenced most dramatically by the SARS epidemic (Fidler 2004). Second, and partially as a result, trans-national and non-governmental approaches – and forms of 'partnership' (Crane 2010; Gerrets 2010) – to addressing these disease threats have multiplied, most significantly in the case of the HIV epidemic. Third, biomedical research itself has become a global enterprise, raising epistemological and ethical challenges as clinical trials and other forms of clinical investigation are conducted in settings of cultural difference and economic inequality (Adams et al. 2005; Petryna 2009).

Both the increasingly trans-national nature of health threats and the increasing role of non-governmental actors in responding to them, have raised new empirical and theoretical challenges (Inhorn and Janes 2007). How do global and local processes shape and channel these disease threats? What is the appropriate analytic frame for directing scrutiny at these global and/or local entanglements? In order to respond to health concerns arising out of the traditional confines of wealthy economies, new non-governmental and private health actors have proliferated. As a result, international mechanisms have diminished in importance in favour of consortia cobbled together from national organizations and trans-national networks of agencies and activists. Assembling and coordinating these decentralized responses raise both practical and empirical challenges: what are the mechanisms by which such responses can be cobbled together, how do they actually work and what are their impacts? And how might such assemblages be properly analysed, when our theoretical vocabulary is largely derived from the national social science that first emerged around the problematic of the modern European nation state (Ong and Collier 2005)?

The first set of challenges enumerated above relating to the understanding of the causes of new global health threats has most often been examined from two directions. From the social sciences, the framework of globalization has provided an analytic frame for focusing attention on social processes (Lee 2003). From social epidemiology, the framework of social determinants of health inequalities (Kawachi et al. 1999) has provided a useful analytic model for linking social processes to

health outcomes. It is only recently that social scientists, notably anthropologists and political scientists, have attempted to bring together these two approaches to develop a critical social science of global health. The starting point has been to acknowledge that global health is not a 'given', or a purely natural phenomenon like the weather. Rather, global health is *produced* (Nichter 2008).

How Globalization Affects Health

Globalization influences the planetary distribution of both the risks to health (including but not limited to specific causes of diseases) and the human and material resources to prevent, or at least mitigate, their effects. Neither causes nor cures follow a 'natural' global distribution. In an increasingly interdependent world, rates of smoking – and lung cancer – in, say, Canada are linked to their rates in India. With globalization, the mechanisms that link the production of health and illness in one part of the world to another are intensified. If exposure to toxins (such as cigarette smoke, asbestos or trans-fats) is curtailed in one part of the world, it is easy enough to 'export' toxins elsewhere. The ecology of pathogens and illnesses is not compartmentalized by geography (if it ever was).

The World Health Organization (WHO) famously defined health as not just the absence of biological disease, but as a continuum of well-being. The WHO's definition of health can seem utopian, particularly in an era characterized by massive health inequalities. These inequalities mean that diseases that are simply enough prevented or if necessary treated in wealthier countries ravage the global South, in effect crowding out the relevance of the WHO definition for much of the world's population. To the oft-cited example of infectious diseases such as AIDS, tuberculosis and malaria one can add the chronic conditions of cardiovascular disease, diabetes, cancer and others which also contribute massively to a uneven global burden of suffering. Is there a relationship between these global health disparities and globalization?

The idea that social factors explain the distribution of disease is the cornerstone of social epidemiology. Already in the nineteenth century, Berlin physician and founder of pathology Rudolf Virchow advocated for a 'social medicine' based on the observation that poverty was a fundamental cause of ill health. Since then it has become widely accepted that poverty causes vulnerability to disease. More recently however, a surprising finding has been that *relative* poverty, or the *degree of inequality* in a society, also affects morbidity and mortality at *both* ends of the income scale (Kawachi et al. 1999; Donohue 2003). First, then, it is possible to speak of social determinants of health and, in light of the second finding, of social health inequalities. Epidemiologists therefore understand health to be socially determined in that risk of disease is driven both by the absolute level of wealth (a 'wealth' effect) and by relative deprivation (a 'gradient' effect).

Greater wealth allows one to 'purchase' a healthier environment, leaving the poor exposed to pathogenic conditions. Less clear are the mechanisms by which

the gradient – the degree of inequality in a given society – can affect health. How can the economic 'distance' between the wealthiest and the poorest affect the health of people with the same absolute income? In other words, why is it healthier to earn USD100 a month (for example) in a society where the wealthiest earn twice as much than to earn the same amount (USD100) in a society where the wealthiest earn 100 times as much?

Three mechanisms have been advanced to explain the effect of the gradient. The first mechanism draws on a biopsychosocial model, whereby social deprivation is psychologically stressful, producing biological chain reactions (notably increased stress hormones, blood pressure and inflammation) that accelerate the body's ageing. The second mechanism is a straight-forward, materialist explanation. More egalitarian societies invest more in social services and material infrastructure that protect the public's health in general, whereas in less egalitarian societies the benefits of social and material infrastructure are 'privatized' and therefore of little benefit for those who cannot afford to buy their way in. The third mechanism draws on the observation that social connectedness protects health to posit that social capital – or the degree of social cohesion – diminishes as the gradient increases, leaving the poor less socially integrated and with fewer social resources to invest in health.

Convincing data exist to support all three of these mechanisms; they are, however, limited to regional or national studies and they offer limited analytic and practical purchase on trans-national processes. While we may live in a world where global interdependencies are increasing, mechanisms for collecting data on population health are structured along national or regional lines, making it difficult to discern globalized webs of cause and effect. Both social determinants and social inequalities therefore are most commonly understood and described at the national level, for the simple reason that this is where statistics are gathered. This 'methodological nationalism', however, obscures the contribution of trans-national phenomena in the production of health in general, and health inequalities in particular.

Incorporating Global Inequalities

In industrialized societies, social inequality is embodied and is visible in the different prevalence of diseases and outcomes between different social groups – a gradient of risk separates social groups. Epidemiological calculations inform the targeting of interventions for those 'at-risk'. Paradoxically, this may refract social inequalities, producing different effects at various positions in the social spectrum. Those lower on the social ladder may find themselves blamed for behaviour over which they have little effective control and find themselves subject to interventions that medicalize social forms of suffering, even as they are excluded from collective forms of solidarity. Those higher on the social ladder find themselves undergoing ever more biomedical poking, prodding and testing in a vain attempt to achieve certainty from the amorphous threat of risk of which the biomedicalization of

everyday life is symptomatic (Lock 1998; Thompson 2005). The use of risk as a technology for delivering public health inadvertently may blame the poor and magnify uncertainty for the rich with different embodied consequences (Hahn and Inhorn 2009). Risk, then, can be said to be a measure of how power distributes unevenly down the social ladder, or more succinctly stated, of social violence.

The subtlety with which global health interventions may refract global inequalities (Janes 2009) should not detract from starker mechanisms by which inequalities are embodied. Increasing attention is being paid to the public health impact of the proliferation of low-intensity, but nonetheless violent, conflicts around the world (Levy and Sidel 2000; McGinn 2000; Giacaman et al. 2011). The impact, in terms of mortality and physical and psychological morbidity, is devastating (Desjarlais et al. 1995; Jenkins 1998; De Jong 2002). In these conflicts, civilians are the primary targets, often not only of killing but also of non-lethal violence that results in life-long debilitation (Summerfield 1998). Violence used in a manner intended to inflict lasting psychological damage (such as torture, rape, amputation and other violent forms of degradation) is widely reported from across the world. Studies of these conflicts have detailed how a highly inegalitarian and extractive global economy fuels this kind of violence, facilitated by cheap arms exports and weakened states no longer able to enforce authority over their territories (Ellis 1999).

Despite evidence of the growing impact of violent conflict on world health, the effect of politics on population health has been most widely understood in terms of how particular policies, such as taxation, health insurance and access to schooling, inflect disease rates. Recasting the relationship between disease and social inequality as the embodiment of social relations adds value to the core epidemiological finding by allowing affliction to be related to prevailing ideologies that inform policy, the way misfortune is conceptualized and managed, and how meaning systems influence how individuals interpret their bodily states, seek care and fashion themselves according to prevailing moral notions. It is precisely the inequalities visible in these pathogenic mechanisms that can be conceptualized as social violence. Inequality is more broadly viewed as a form of violence that can be exercised directly on the body or indirectly through risk and blame. This view allows the three epidemiological hypotheses about how inequality results in ill health to be (a) extended to include political processes, (b) sharpened to examine local social pathogenesis and (c) complexified to take into account biosocial interactions. For all three, anthropology can illuminate the landscape of affliction in society, focusing the question of power more centrally on the question of how therapeutic power – the power to manage misfortune – is legitimated.

Anthropology and the Global Politics of Health

The anthropology of global health therefore examines how the embodiment of social inequalities is refracted through global processes. Global health occurs within a political space delineated by the processes by which globalization

produces embodied differences, conflicts over therapeutic legitimacy (who has the power to care or to protect), and the organization of collective responses to address differences in health. For anthropologists working in global health, the question of power – the power to wound, to heal or to prevent injury – is particularly acute given the dramatic health inequalities made visible. Power offers a compelling framework for opening up consideration of inequality to include historical and cultural processes, rather than reifying it in terms of social structure or cultural essence or individualizing it in terms of human agency. Much recent work in the anthropology of global health has examined how discourses and institutions of global health have emerged around issues of security and 'emerging' infectious diseases, reframing global health in terms of emergencies and 'preparedness' at the expense of focusing on underlying social determinants of health (King 2003; Lakoff 2008; Atlani-Dualt and Kendall 2009; MacPhail 2010). All is not new however, as the preoccupation with reproduction and population remains a pillar of the new global health, albeit less as a developmentalist concern than as a human rights issue (Maternowska 2006; Browner and Sargent 2010).

Gradients of inequality that exist across national borders play an increasing role in shaping the health of populations (Bettcher 2000; Bateman et al. 2001), and underscore the political dimension of health. Trans-national social inequalities drive migration for economic survival or therapy (Kangas 2002), as well as the movement of pharmacological agents, biologicals and organs (Whyte, van der Geest and Hardon 2003). The predominantly national nature of the socioeconomic data collected to explore the relationship between socioeconomic inequality and health has imposed constraints on the ability to capture the impact of migration and trans-national health gradients, constraints to which ethnographic methods offer an alternative.

Accounting for these gradients places ethnographies of global health within the broader understanding of how historical dynamics produce inequality, encompassing both wealth *and* poverty. While political economic approaches drawing on Marxist and world systems theory (discussed further below) have been a favoured tool for capturing these historical dynamics, ethnographic studies have been careful to document how local cultural and spatial dynamics texture the way in which local actors comment on and engage with global processes. Accordingly, the cultural dimensions of poverty are no longer viewed *sui generis* but as local attempts to understand, negotiate and even resist global political and economic processes. By attention to local facets of global inequalities, it is possible to see how local actors make meaning and draw on a cultural repertoire to fashion tactics in order to allow engagement with a material environment that, if not overtly hostile, offers a considerably diminished horizon of possibility. Trans-local and trans-national phenomena shape local worlds and possibilities for action, drawing attention to how globalization increases social inequality and, through global media, awareness of it.

The cultural dimensions of how victims of global inequality respond to their situation should not be confused with the term 'culture of poverty' which is often – somewhat erroneously – associated with the hypothesis that poverty stems from

belief systems shared by social groups. Ethnographies conducted amongst the poor and socially excluded refute this hypothesis. Anthropologists have reported situations where exceptional events – disappearances, murders, violence – are routinized in a kind of 'culture of terror' (Taussig 1992). Most striking has been the ethnographic rebuttal of the common-sense view that situations of distress, extreme poverty or endemic violence are rife with psychosocial stress, social breakdown and a feeling of emergency. This does not appear to be the case, however. Indeed, these situations are remarkable for the apparent normalcy that reigns, as if a kind of invisible force continually strives to suture a rent social fabric. A more reasonable proposition, in light of this discussion, would be to refer to a 'culture of inequality' to describe how assemblages of ideas and practices perpetuate social and biological inequalities. A key question for the anthropology of health is therefore to understand how these cultures of inequality generate 'unhealthy' societies.

What is Anthropology?

Anthropology and public health do not share the same epistemology – they do not produce knowledge the same way, and the forms of knowledge they produce are fundamentally different; they look at the world differently. To understand this difference, it is helpful to go back to the history of anthropology. Writers since classical times have reflected on the nature of society using different places and peoples as a foil. Modern anthropology differs, arising after the Enlightenment and the development of systematic sciences of human society and behaviour. The social and human sciences – economics, linguistics, sociology and so on – that resulted are still with us today.

Anthropology seeks to understand human beings, but only came to be identified with specific methods for conducting empirical research in the last 80 years. The forerunner of modern anthropology was philosophical enquiry. The German idealist philosopher Immanuel Kant's anthropological philosophy is often cited as a key moment, asking how it was possible for humans to know the world. Because anthropology is in some senses the study of what it means to be human, it is therefore never possible to dissociate completely the object of study – human society – from the scientific subject doing the studying. Anthropology is a human science that cannot rely on the artifice of the separation of the subject from the object – like the biologist from the cell she studies under the microscope, or the epidemiologist from the diseases he measures and charts.

It was not until Bronislaw Malinowski initiated formalization of unique empirical methods, namely participant observation during long periods of immersion in foreign cultures, or fieldwork, that anthropology could claim itself as a discipline in its own right – and largely parted ways with philosophical enquiry. Today participant observation is a commonly used 'qualitative' – as opposed to 'quantitative' – research method, but outside anthropology largely used

episodically and not as part of long-term fieldwork in a foreign location. Qualitative methods should therefore not be confused with ethnography. Ethnography furnishes data, gleaned from the ethnographer's immersion in everyday life, that can be assembled into accounts of social process and structure. Another hallmark of anthropological enquiry is *comparison*: classically, the comparison across cultures of key aspects of social structure and process: kinship, myth, healing, reproduction, labour, agriculture and so on. Comparison enables the identification of variants and invariants in social life. To put it somewhat crudely, in this view variation is attributed to cultural idiosyncrasies, while the universal is attributed to nature, whether biological, environmental, or cognitive. Kinship, for instance, is pretty much universal, as is the incest taboo. Kinship serves both a biological and a social purpose, by ensuring exogamy (out-marriage) and, therefore, the production of social relations that ensure biological reproduction. When taken in historical context, however, the picture becomes more complicated. Are common social forms (for instance, monotheism) due to a universal evolution, or do they reflect diffusion from an original source? In today's globalized world, diffusion increasingly appears to be the dominant model for understanding patterns of similar cultural practices.

Anthropological Perspectives on Globalization

The key axiom of globalization studies is simple enough. It is that in a world that is, for various technological, political and economic reasons, increasingly interlinked and interdependent, social phenomena should not be treated in geographic isolation. The first challenge therefore is to offer a coherent description of the globalization that does justice to the dynamic processes that constantly differentiate global and local. Certainly, there is no doubt that globalization encompasses a range of quantifiable phenomena – from the mobility of populations to shifting distributions in economic resources and threats to health – that are treated in the empirical literature where numerically rich descriptions of globalization are to be found.

Anthropologists, however, are interested in phenomena that are subtle, embedded in everyday life and are neither easily noticed, nor easily amenable to simple quantification because of their complexity. The parable of the blind men feeling an elephant helps us understand what anthropologists do: they try to reconstruct the elephant from multiple observations of blind men, rather than counting how many lumps and creases each blind man feels. To be able to piece together the 'big picture', anthropologists resort to theories about how the world is structured – how lumps, creases and appendages are 'caused' by a single organism. Whether we are actually dealing with an elephant or a rhinoceros can never be definitely 'proven'. Anthropological theories – elephant or rhinoceros? – can be tested through comparison to see which offers the most convincing account of the world. Theories cannot be proved or disproved; in this sense, they can

only be evaluated by how convincingly they tie together disparate observations. Anthropologists thus approach globalization through the lens of social theory, focusing on specific clues to social structure.

One influential approach analyses how globalization results from the expansion of the capitalist economic system. In this view, most famously and eloquently articulated by David Harvey from the mid-1990s on, globalization is none other than the compression of time and space that has resulted from the intensified and accelerated dynamics of capitalist production (Harvey 1991, 2005a, 2005b, 2006, 2010). Free trade, the frictionless movement of capital across borders, outsourcing of production and so on, obey a relentless logic that simultaneously links desires and bodies across the world as it encloses labour and what is left of the commons. This is a classical Marxist treatment of globalization, whose appeal lies in its broad explanatory power and its ability to link otherwise disparate phenomena. For medical anthropologists, the political economy approach has the benefit of locating the origins of poverty not in individual behaviour, but in broader structural forces that are now understood in terms of global processes and shed light on ethnographic data.

A more recent approach has attempted to overcome the limitations of the Marxist tradition by integrating the analyses of the French philosopher Michel Foucault. Of particular interest has been Foucault's attempt to generate an analytics of power that is neither reducible to an analysis of class or economic interest nor to an assumed functionalism. An influential analysis synthesizes Marx and Foucault to elaborate a theory of globalization as 'Empire' – not to be confused with imperialism (Hardt and Negri 2000). Empire is a de-centred global structuring form of 'biopower' (understood as the ordering of human life) that subsumes the entire world within it. Dialectically opposed we are not to find an oppressed working class, but rather an undifferentiated 'multitude' which resists subjectification into identity politics that are recuperated through consumerism. This has drawn attention, at the ethnographic level, to processes of subjectification, the production of subjectivities and the forms of identification that result.

Anthropologist Arjun Appadurai has advanced an approach to globalization that focuses more closely on the actual phenomena of globalization (Appadurai 1996). Also drawing on Marxist tradition, Appadurai's approach has been more ethnographically attuned in paying attention to juncture and disjunctures in the production of global imaginaries, circuits of consumption and technologies of communication. In this view, globalization is produced 'from below', in the manner in which people appropriate circulating ideas, technologies and commodities in everyday life.

These three perspectives offer complementary approaches to the large beast – elephant or rhinoceros? – in the room. While the first understands the beast in terms of an underlying physiology (tissues – sinew – blood flow – lungs oxygenating), the second locates its fundamental cause in terms of DNA coding and the third in terms of the ideas by which the blind man makes sense of the shifting textures under his hands.

Anthropological Perspectives on How Global Inequalities Affect Health

Anthropological research contributes to greater understanding of the complex, multi-factorial mechanisms, such as those detailed above, by which inequalities lead to ill health, and by situating them in global perspective. The strength of this research has been its ability to investigate, from the ground up, in everyday life, in institutions and in laboratories, both the effects of inequality and the way in which they are perceived and acted upon in different parts of the world. An important contribution has been to illuminate, and indeed challenge, the three 'pathways' by which global social inequality produces health and illness.

Recall that the first pathway suggests that social inequalities are mediated through a biopsychological mechanism, whereby inequality creates psychological distress that is translated into biological stress and accelerates ageing. Anthropological research in different global settings advances an important critique of the biospsychosocial pathway. They question the universality of the biology that is assumed to express the pathways through which inequality exercises biological effects. Rather than deny the relevance of biology to understanding social phenomena, these studies, which take biology very seriously, point out that biology – from the genetic to the ecological – is more plastic than otherwise acknowledged and is extraordinarily permeable to social events (Lewontin 2000). In global perspective, this suggests that significant historical, environmental, and cultural differences can play out in the production of what Margaret Lock has called 'local biologies' (Lock 1995). The cumulative effect of exposure to radically different environments can lead to significant biological differences.

Anthropologists therefore warn not to confuse cause and effect, as biological differences between populations may not so much be the cause of observed social differences as their effect. Rigid notions of causality – such as that implied by terms like social determinants – oversimplify highly complex biosocial interactions between environment, culture, diet and history. In contrast, longitudinal or life-course approaches take into account how individuals shape their environments, based on the ways in which they understand their positions in the world. These life-course approaches provide a glimpse into how history is embodied; they point to how complex social, historical and physiological interactions are overly simplified by reducing them to uniquely biological phenomena. Such biologizing, and by extension medicalizing, of social ills can be a form of social control and, perhaps more dangerously, paves the way for attempts at 'magic bullet' solutions to these complex problems, with potentially deleterious results (Zola 1972; Illich 1977; Conrad 1992).

The second, 'neo-materialist' pathway refers how material conditions channel social inequalities into poor health. Anthropologists have added to the neo-materialist hypothesis a more overtly political perspective by seeking to link local inequalities to a broad range of large-scale social forces by working 'up' from field sites to link to more macro social science perspectives. Building on the

social epidemiology that sought to track the hidden injuries of class in the 1970s (Waitzkin 1981; Turshen 1984; Baer 1996), the impact on health of social policy and, furthermore, of the broader political economy has received renewed attention, with a focus on how contemporary changes in macro-economic policy and the role of the state impact the health of populations in general and the poor in particular (Kim et al. 2000; Navarro 2002). Here, by using social theory to provide the crucial link between large-scale social change and the lives of individuals, medical anthropologists have joined forces with critical scholars of public health to more sharply politicize the materialist hypothesis. Increasing attention has been paid to linking material 'determinants' of health to social policy, how social policy is translated into material action, and, more generally, to the ideological and political commitments that shape the environments within which policy is formulated (Coburn 2000).

The mediating effect of social capital represents a third, hypothesized pathway. While the concept of social capital is often invoked as mediating the impact of inequality on health, it remains a nebulous concept. Definitions have ranged from trust to density of social ties. The use of social capital in the literature on health inequality and disease can seem tautological: societies are healthy because they are trusting, and there is a lot of trust because societies are healthy. Anthropological approaches differ from those that view social capital as a historical and cultural essence, and instead view social ties as produced in historically and culturally conditioned networks of reciprocity and exchange. Social capital cannot be equated with social equality, as it may result from asymmetrical relations of power that are highly hierarchized (Elkana et al. 2002).

In summary, anthropological perspectives on the three hypotheses advanced to explain the inequality and/or disease correlation call for an approach that links local context to global conditions. This approach requires that materialist factors be placed within a broader geopolitical context (Popay et al. 1998; Coburn 2000) that discussions of biological or social determinants be opened up to include exploration of the full complexity of biosocial interactions and that analytically robust definitions of social capital be developed from fine-grained empirical studies that examine the historical and cultural co-production of social cohesion and inclusiveness.

Putting Global Health in Anthropological Perspective

Globalization produces social inequalities that, in turn, translate into health inequalities. Epidemiologists have advanced three mechanisms – biopsychosocial pathways, material deprivation and social capital – by which this translation may occur. The study of health and illness by medical anthropologists in different settings around the world have illuminated and challenged these mechanisms. These strategies provide an anthropological perspective on understanding how globalization embodies health inequalities.

Global health is an expression of the relationship between the body and society, and it is this relationship that ethnographic approaches seek to flesh out. Anthropologists have drawn on social theory to move beyond epidemiological notions of health and inequality to explore processes that produce and legitimate inequalities both in societies and in bodies. Three complementary approaches have been advanced: social studies of science and technology to examine how biomedicine constructs the categories through which we apprehend and intervene on affliction, phenomenological accounts of suffering and critical studies of embodiment, respectively. Critical epidemiological studies have used quantitative methods to detail racial and gender biases in disease outcomes. Since the 1980s anthropologists have shown how this actually happens, showing how cultural constructs inform what gets to 'count' as a symptom or even as a 'real' disease. Activists who seek to gain recognition – and treatment – for conditions such as fibromyalgia or chronic fatigue syndrome are contemporary social expressions of this critique. Because this critical approach to how biomedicine produces knowledge and objects of intervention draws uses ethnographic methods, it is most often called the anthropology of science and technology or, more succinctly, the anthropology of biomedicine. More recent work informed by social studies of science has problematized the social and technical processes through which disease entities are constructed and embodied (Mol and Law 2004).

The anthropology of global health incorporates this critical perspective on the epistemology of global health, in effect recasting knowledge in terms of the forms of power it legitimates and power as a function of the ability to know (for instance Fearnley 2010). Anthropologists have focused on the institutional and discursive logics that frame global health (Briggs and Nichter 2009), and resulting shifts in intellectual property regimes (for example Hayden 2007). Humanitarianism has been central to the discursive logic of global health, such that the orthodox public health approaches to population health have been displaced by an emphasis on saving lives. Anthropologists have highlighted the at-times paradoxical consequences of a global apparatus geared to 'life in crisis' to the exclusion of all else (Redfield 2005). Transposed to global health, humanitarian politics may be reduced to a minimum of 'witnessing' and 'bare life' (Redfield 2006; Ticktin 2006), or, in some cases, go beyond a politics of bare survival to forge new alliances in struggles against injustice (Robins 2009a). Global health is also constituted through the global circulation of pharmaceuticals (Whyte, van der Geest and Hardon 2003; Ecks 2005; Petryna, Lakoff and Kleinman 2006) and technologies of the self (Lock and Nguyen 2010).

Because biological categories – biomedical nosologies – do not adequately cover the spectrum of afflictions present across the world, more inclusive definitions of affliction (including religious and supernatural accounts of affliction) may offer a fuller picture of how inequality translates into affliction. Phenomenological approaches reject the biomedical definition of disease (seeing it as too narrow, or even ethnocentric) in order to better study the forms affliction takes across cultures – from witchcraft and spirit possession to infestation by various non-human agents (Lewis 1991; Geissler 1998; Samuelson 2001). Within medical anthropology,

the phenomenological school sees the biomedical inscription of disease as one cultural elaboration among many of a pre-cultural, existential form of suffering that is considered defining of the human condition (Good 1993). In this view, while biomedicine shares with Christian religions a soteriological structure, it offers treatment without salvation. However, the notion of a pre-cultural existential ground of suffering has been criticized because it does not offer firm theoretical purchase on how affliction is to be historicized. An engaged anthropological critique of social suffering has joined forces with critics of medicalization to denounce the de-politicization of health and to mount a powerful critique of the social forces that shorten the lives of the poor (Farmer 1997). While this political phenomenology of health has gained considerable traction as a powerful critique of existing forms of injustice, it has been criticized for a somewhat narrow and moralizing view of social inequality and those most harmed by it, an uncritical stance toward biomedicine which is taken as panacea for social suffering, and a blindness to the ethical and political dimensions raised by the medical-humanitarian interventions it endorses (Butt 2002a).

Eschewing the search for a transcendental theory of suffering and soteriological approaches to biomedical systems, a third approach focuses on the materiality of the body, drawing on a tradition of scholarship on the anthropology of the body that has shown how social relations invest and express the body, either as inscription (Turner 1980), experience and its embodiment as traces in the body (Pandolfi 1990), or practice, sedimented into what Bourdieu has called habitus (Farquhar 1994). This social dimension makes for a politics of the body, visible in the political economy of the body (Goodman and Leatherman 1998) or through the scrutiny of the processes through which the body may express resistance to dominant political forms (Comaroff 1985). Scrutinizing how the body is located within historical and social relations sharpens the ethnographic focus on how power is embodied.

The anthropological contribution to global health thus extends further than the critique and elaboration of the mechanisms by which global inequalities are translated into health inequalities. As I have discussed, ethnographic approaches have focused on three key aspects crucial to understanding global health. First, the cultural frameworks that generate scientific knowledge, technologies and practices about global health can be examined to show how global health is made real and available to intervention. Second, how the enculturation of affliction sheds light on how the suffering inflicted by global inequalities are mediated by local systems of meaning. Third, the ways in which social forces are incorporated in everyday life and in the process reproduce global hierarchies. Global health therefore is political.

Legitimating Therapeutic Power

Across the globe, therapeutic claims must be justified and practitioners must legitimate their ability to exercise therapeutic power. Therapy is political, and therapeutic politics mediate the impact of social inequalities on health. This is

because therapeutic systems, including biomedicine, texture the form affliction takes in a society and may therefore exacerbate or alleviate existing inequalities. Therapeutic systems may exert indirect political effects, for example embodying forms of embodied resistance that may mature into full-fledged political movements (Anderson and Johnson 1995). Therapeutic systems are central to the political physiology of societies around the globe; analogously, biomedicine as therapeutic system and the broad array of discourses and practices that fall under the rubric of global health occupy a central role in globalization.

The entanglement of the power to heal and the power to rule is the result not just of traffic between the symbolic domains of body and society (Douglas 1996), but also of the material intermingling of therapeutic action with the exercise of rule, including the proliferation of resistances to it. This entanglement occurs when the charisma of political power stems from the power to heal or the experience of being healed and when the exercise of political power is crossed with therapeutic rituals. The therapeutic pluralism at work in the government of global life puts the legitimation of therapeutic power firmly in the political arena (Brodwin 1997). This is most evident in the struggle for recognition waged by non-biomedical therapeutic traditions, such as traditional African therapies on that continent or traditional Chinese medicine and its migrant reincarnations in North America (Lau 2000). Different medical traditions define and manage pathology differently; consequently, the therapeutic blend present in a given locality will impact sufferers' patterns of resort and the embodiment of inequalities (Nichter and Lock 2002). Biomedicine is often the most expensive therapy in developing countries and, as a result, is resorted to only after more accessible (whether for economic, cultural or geographic reasons) therapeutic options have been exhausted. Fluctuations in the availability of different therapeutic options can impact health outcomes, for instance, when public investments are made in less accessible therapies that may be more effective at an individual level but do not translate into improved health of the general population because most do not have access to them.

While the core focus of medical anthropology has been the relationship between health, biomedicine, and social change, critical approaches to biomedicine have figured more prominently in studies conducted in industrialized countries than in the third world. In the global north, affluence conjugated with social movements, most notably feminism, contested biomedical power. Studies of medicalization, clinical ideologies and micro-political struggles (Lock and Kaufert 1998) denounced biomedicine as a form of domination, particularly over women's bodies. Thus, although the role of biomedicine as a powerful cultural vector, present both in everyday life and in collective representations (Lupton 1994; Burri and Dumit 2007), is by now widely accepted in anthropological scholarship on modern society, comparatively little work has investigated its corollary in the post-colonial world, still too often seen as being mired in a 'traditional' therapeutic economy.

Commodification of the Body

Situations of extreme inequality combine relative deprivation with fleeting access to the world of the wealthy. Lack of access to education, capital, and other resources that would otherwise permit upward mobility in a capitalist economy limits options for survival and advancement for those who are both deprived of, and exposed to, the world of wealth. The Marxist theory of labour remains the cornerstone of theories of commodification of the body. The most discussed example is that of sex work, and although debate still remains as to whether sex work represents a form of commodification, it does appear that increased inequality facilitates exchange of sex for access to economic resources (Sobo 1995; Schoepf 1998), providing increased opportunity for the spread of sexually transmitted infections such as HIV. The commodification of health was initially most visible in the increasing adoption of market mechanisms to deliver health care (Peterson 1998; Maskovsky 2000), so-called managed inequality (Rylko-Bauer and Farmer 2002). However, new markets and new biomedical technologies condition new forms of extraction (Cohen 1999), in effect intensifying the commodification of the body and its futures. The result has been a brisk trade in organs (Sharp 2001), cell lines, genetic material, biologicals and reproduction, whether through surrogate motherhood or trans-national adoption (Ragoné 1999).

Anthropologists have begun to examine the organ trade as a form of body commodification facilitated by inequality and the constitution of global markets for organs through the dissemination of biomedical technologies (Cohen 1999; Marshall and Daar 2000; Scheper-Hughes 2001). Other forms of body trade – such as traffic in women, children and migrants – are also garnering increasing attention. The studies that have been conducted indicate that, whereas the driving force for such transactions is material, more affective motivations (such as the desire for emotional security, children or status) embedded in cultural notions of value and the good life also play a role (Sobo 1995; Lock and Kaufert 1998). These studies call attention to how trans-local inequalities juxtapose competing regimes of value (Appadurai 1988), establishing novel markets and economies. Simultaneously, the global dissemination of new biomedical technologies (Inhorn 2003; Hamdy 2008) works to give populations access to biomedical technologies that were previously unavailable.

The description of capital's extractive power in venous terms, as something that, via the alienation of labour, bleeds subaltern classes until they are too weak to resist the vicissitudes of life in poverty, dates to the Industrial Revolution (Marx 2000 [1873]). This metaphor persists in the political economy approach to health inequalities, an approach that insists on unmasking the bland language of epidemiology to indict policies and agencies that perpetuate and exacerbate inequalities (Navarro 2002). The political economy approach, however, has at times overlooked the accelerated and intensified mechanisms by which the very substance of life is extracted from those lower on the social ladder for the benefit of those higher up. Markets for organs and babies are the most dramatic example of

just how arterial these processes of extraction have become. These phenomena are only the most lurid examples of processes that dramatically shorten life expectancy of the poor even as that of the rich increases. Biocommodities and biomarkets are often trans-national in scope because the inequalities that permit them are difficult to sustain within national borders, although they clearly exist in countries, such as the United States, with sufficiently steep gradients of inequality. Studies of biocommodities and biomarkets index the processes by which less-well-off individuals trade in their long-term health for short-term gain, to the benefit of the long-term health of those who are better off.

Intensified commodification is occurring throughout the biological realm, as trans-national corporations claim patents over an ever-extending part of the natural world. This, it has been argued, is nothing short of the fencing off of the intellectual commons, as seen in the reinforcement of international intellectual property law through the trade-related aspects of intellectual property rights (TRIPS) (Panos Institute 2002, Vercellone 2002). The current struggle over expanding access to antiretroviral drugs highlights how biocommodification compromises public health, particularly in poor countries, and exacerbates health inequalities by raising the cost of treatment – and the cost of developing new treatments (Bierlich 1999). The rise of biocapital essentially concentrates therapeutic options in the hands of trans-national corporations, subsuming future health to the imperatives of capitalist production (Negri and Hardt 2000).

The Biosocial Spiral

The adverse health impact of contemporary social health inequalities exacerbates those very inequalities, resulting in a spiral from which it is difficult to emerge. This is the social corollary of the 'illness poverty trap' (Whitehead et al. 2001), whereby poverty produces ill health which then worsens poverty. Extensive evidence exists that new forms of social inequality erode pre-existing social hierarchies. These often fulfil a public health role by assisting communities to weather health crises by ensuring rational distribution of resources (Sen 1981); new inequalities upset a delicate ecology of entitlements with, at times, disastrous results. This upset has already been extensively documented in colonial settings in Africa, where capitalist encroachment led to widespread famines as cash crops and indentured labour, driven by poll taxes, replaced traditional forms of agriculture (Moore and Vaughan 1994). The epidemics that raged across the continent in the interwar period have been attributed to the breakdown of indigenous public health systems – for instance the cultural systems that prevented the spread of sleeping sickness by segregating cattle from human settlements in Eastern Africa – brought about by these social changes (Lyons 1992). Migrant labour was often housed in insalubrious conditions, fulfilling the prophecy of the diseased native (Packard 1989).

Contemporary structures of solidarity are not immune to the impact of deepening social inequality. As the ability of states to deliver effective public health

programmes is compromised in an increasingly neo-liberal political economy (Coburn 2000; Maskovsky 2000), the wealthier are able to maintain access to health capital – clean water, good food, medical care, salubrious living conditions – while the vulnerability of the poor increases (Bond 2000). The wealthier are thus better able to shield themselves from unhealthy environments, whereas the poor are increasingly vulnerable. Migration remains an important element of the equation because it not only contributes to erosion of existent forms of solidarity as people move further afield in search of work but also facilitates the spread of infectious diseases. These elements, and likely many others, conjugate to form a pathogenic social spiral from which it is increasingly difficult to emerge – as the poorer get sicker, and poorer, the cost of mitigating the social consequences rises, triggering a defensive reaction on the part of the rich, who do not want to shoulder the medical cost of inequality.

What is most striking about this pathogenic social spiral is the complacency that greets it – a product, perhaps, of the 'cultures of inequality' that make inequality seem 'natural' and blind us to its consequences. Historical studies have identified the cultural formations that conditioned the indifference of colonial elites to the plight of natives (Dozon 1991), under such terms as the sanitation syndrome (Swanson 1977) and heterophobia (Le Pape 1997). Relatively little contemporary work, particularly among international decision makers and within powerful agencies, has focused on the culture of indifference that surrounds growing evidence of a worsening 'health apartheid' (Bulard 2000). Exceptions include critiques of the tendency to invoke a version of cultural relativism to explain why certain health outcomes may be more acceptable to certain groups than to others (Farmer 1999). Equally criticized has been the deployment of cost-effectiveness arguments to justify inequalities in access to biomedical care. The argument that health is a human right is often used as the cornerstone for these critiques of indifference in the face of health inequalities (Mann et al. 1999; Kim et al. 2000). An important polemic, however (Irwin et al. 2002), has developed between proponents of human rights arguments, and the humanitarian appeal that underlies them, and critics of development and humanitarian intervention, who see in such appeals a commodification of suffering, a dismissal of local politics, and a disguised imperialism masking as a universal notion of human rights (Cheang 1997; Adams 1998; Malkki 1998; Negri and Hardt 2001; Butt 2002a; Rabinow 2002). This points to the need for more empirical study of just how human rights and humanitarian intervention are operationalized in different localities and through different issues around the world (Pandolfi 2001; Butt 2002b). The issue of whether cultures of indifference and humanitarian cultures of empathy are part of a global formation that perpetuates inequality, or are simply local perversions, needs to be resolved.

Conclusion

In summary, anthropology continues to have a troubled relationship with global health, as science and as practice. Anthropologists and the global health community are one in their view of health as a product of global inequalities, and ethnographies of global health have added important nuance to understanding the mechanisms that embody inequalities. Where they diverge is in their stance towards biomedicine and use of biology as a universal standard for measuring the impact of inequality. Anthropologists tend to be sceptical of universalizing claims and thus adopt a more critical stance to both the science and the practice of global health. This critical stance is nourished by the serious attention anthropologists pay to phenomenologies of suffering and the materiality of the body in everyday life. The outcome has been to highlight the struggle over diagnostic and therapeutic claims, and to question the notion that biomedicine can function as a quick fix to the seemingly intractable problems of global health in an era of stark inequality.

Public health in most parts of the world has been sacrificed – through structural adjustment programmes and a host of other neo-liberal incentives foisted on the world's poorer countries by the implementing agencies of rich donor countries – in order to create more favourable climates for investment (Lloyd-Sherlock 2000; Braveman and Tarimo 2002). The poor disproportionately suffer the consequences, resulting in the illness-poverty trap that has spiralled entire societies into demographic decline as communicable diseases spread unchecked. This finding concurs with observations that the demands of neo-liberal globalization imply that the poor are dying for growth (Kim et al. 2000), just as they bled for the Industrial Revolution in the nineteenth century. This venous language, as strident as it may sound to some, is mild compared to the vernacular of vampire rumours and other references to the occult nature of contemporary capitalism (Ashforth 1999; Comaroff and Comaroff 1999). These authors describe arterial forms of extraction and a cannibalistic social order, where the poor sell their health to stay alive to benefit those who are better off.

Global Environmental Change and Human Health

Charmian M. Bennett and Anthony J. McMichael

Introduction

The physical, chemical and biological environment, in its many manifestations, poses diverse risks to human health. Many of these have long been recognized and feared – including natural weather disasters, 'mal-aria' (bad air) in the swamps around ancient Rome, crop losses from sporadic infestations, urban air pollution and industrial chemical wastes in food and water.

Today, a further and different type of environmental hazard to human health is emerging. The scale and intensity of the 'human enterprise' and its demands upon the wider environment are now so great that many of the world's regional and global environmental systems are being disrupted. Hence, the current geological era is increasingly referred to as 'The Anthropocene', the successor to the Holocene of the past 10,000 years. This name signifies that, for the first time in the planet's history, the Earth System at large is being influenced, indeed increasingly disrupted, by the impacts of just one species, *Homo sapiens* (Steffen et al. 2007; Rockstrom et al. 2009).

The environmental systems at risk include Earth's climate system, the UV-filtering stratospheric ozone layer, the hydrological cycle and associated fresh water flows and supplies, the circulation and biological activity of key elements (especially nitrogen and phosphorus), the dynamics and chemistry (and hence vitality) of the oceans, the productivity of forests and their ecosystems and the fertility and regeneration of soils. These systems underpin life support, everywhere. The sustained health of human populations depends upon them absolutely (Myers and Patz 2009).

Concurrently with these systemic natural environmental changes, many demographic, social, cultural and economic changes are also underway around the world. Human numbers are great and growing, human connectivity is increasing on many fronts, economic 'globalization' has increased in recent decades, and levels of average wealth (and associated consumption and waste generation) are

continuing to rise – even as great disparities between rich and poor persist, and even widen (Schrecker and Labonté 2010). These changes to the social environment also have great consequences for human health, including influencing how humans use, manage or damage the natural environment.

In this century, then, human societies must learn to live sustainably, within the limits of the natural environment, if population health is to be secured. Otherwise, these emerging global environmental changes will exacerbate many of the world's existing health problems and inequalities. Unabated, those environmental changes will tend to increasingly amplify social disruption, conflict, population displacement and human misery. The international human community therefore needs to better understand the nature and implications of this larger-scale category of environmental threat to human well-being, health and survival.

Humans, like other species, are subject to environmental 'carrying capacity' constraints. Unlike other species, however, our cultural and political accoutrements enable us to defer that accountability or (particularly in times past) to pass the liability to other populations. The task we face is challenging: an understanding of this new, complex and unfamiliar 'global-scale' issue will not come easily. The conceptualization of these 'systemic' environmental threats to health, and the form of the requisite research and policy responses, can seem far removed from the tidy comfort of reductionist, item-specific research and policy formulation. This, though, is also a moment of great opportunity – to learn, at last, about the essentials of the biosphere within which we live and to open up vistas of environmentally sustainable, fairer and healthier human societies.

In this chapter, we first provide a broad overview of global environmental changes and their consequences for human health. Climate change is an instructive example. We then examine specific facets of global environmental change, beginning with the more direct and quantifiable impacts on health, and then exploring how more complex multi-system environmental changes affect fundamental aspects of human population health and well-being. We conclude with a discussion of health inequalities and the disproportionate burden of global environmental changes on more vulnerable populations in lower-income countries.

Consequences of Global Environmental Change for Health

Global environmental changes pose diverse risks to human health and survival. Some causal processes are simple and direct, but many are complex and indirect, often entailing changes to ecological and social systems. Figure 5.1 presents selected examples.

A tantalizing type of 'inverse law' confronts both researcher and policy-maker in addressing this topic area. The more fundamental and potentially serious the health consequences of a particular type of global environmental change, the less easy it often is to adduce clear and quantitative evidence of the health risks. Consider, for example, that if the marine food web were to collapse under the combined

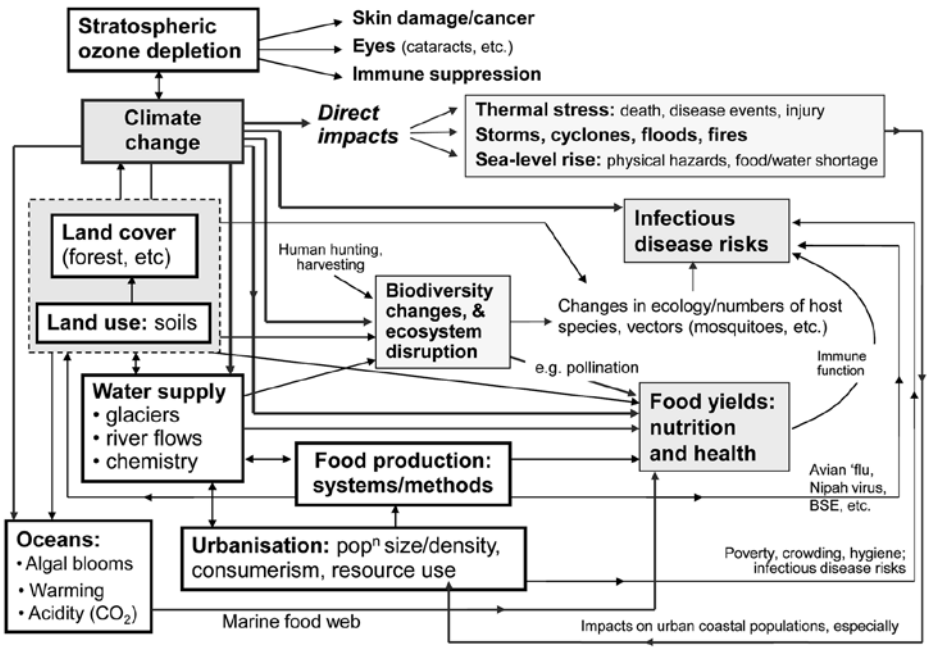

Figure 5.1 A schematic representation of the diverse and often interconnecting pathways through which global environmental changes can affect human health and well-being

stresses of ocean warming, acidification and over-fishing, the consequences for food supplies, malnutrition, health and survival could be profound. But neatly specifying and quantifying the risks is not possible. Thus, the currency of policy-making and public discourse will need to accommodate a mix of complexities, uncertainties, possible future scenarios and dynamic changes in affected systems over time.

The causal pathways explored in Figure 5.1 are diverse. A straightforward pathway flows from the depletion of stratospheric ozone by anthropogenic emissions of ozone-destroying gases, resulting in increases in ambient UV-B radiation levels at Earth's surface. Modelled estimations of those increases allow estimation of the change in skin cancer risk. Similarly, a simple model of the likely increase in frequency of very hot days under climate change scenarios enables estimation of the future increase in heat-related deaths in a specified population.

In contrast, much greater causal complexity underlies how crop yields may be affected by a combination of altered climatic conditions, increased concentration of nitrogenous compounds in the biosphere, biodiversity losses and freshwater shortages. Indeed, we have no actual prior experience of how

these global environmental changes might interact with one another. Hence, we cannot confidently model or estimate how these future changes in food amounts and quality might translate into food availability, consumption and nutritional outcomes (especially in childhood).

These examples underscore the importance of clarifying the difference between direct-acting, often localized, environmental hazards to health and the hazards that arise from more complex changes to environmental and ecological systems, sometimes via a long-term incremental process. The main body of environmental health research has long relied on empirical epidemiological and toxicological studies to reveal and quantify risks to health. For example, if agricultural workers are exposed to a new agro-chemical, then conventional epidemiological studies (cohort studies, case-control studies and so on) will typically be used to identify the consequent health risks, such as cancer and liver toxicity. Likewise, for urban air pollutants, the relationship between various pollutant types and concentrations and changes in respiratory and cardiovascular health outcomes can be readily studied.

This familiar type of research is illustrated in the centre of Figure 5.2 (that is, the central rectangle leading to 'cancer'). However, that figure illustrates many other health risks arising from this agricultural domain. There are risks from: (1) the global climate change that, in part, is occurring because of the vast contribution of worldwide agricultural activity to greenhouse gas emissions; (2) the impacts of climate change on agriculture, where changes in yields impinge on livelihoods, incomes, nutritional status (especially child development and susceptibility to various infectious diseases) and mental health; and (3) the impacts of the release of nitrogenous compounds (from fertilizer use) on many biological and ecological processes in nature, with a consequent range of direct and indirect impacts on human health. Not shown is the fact that gaseous nitrous oxide is also a significant contributor to the destruction of stratospheric ozone, and hence to ground-level exposures to ultraviolet radiation.

The diagram illustrates, first, the conventional epidemiological approach to an environmental threat to health – see the causal pathway leading from a specific chemical exposure (farm chemicals) to a specific disease outcome (cancer). However, agricultural practices have many other impacts on the wider environment, and some of them, when aggregated (for example greenhouse gas emissions), affect global environmental systems. These global environmental changes, in turn, affect health, including via impacts on food yields.

Understanding and (where possible) estimating the health consequences of these systemic environmental changes requires systems-based thinking and conceptualization. This must include addressing the uncertainties that are inherent in the use of scenarios to forecast future risks, and exploring the combined health impact of various concurrent environmental and social changes. Hence, we cannot treat global environmental changes as just another interesting category of environmental exposure to be studied as or after the changes happen, and *then* decide whether and how we should reduce exposure levels in the future. Rather, much of the research must scope the present risks and,

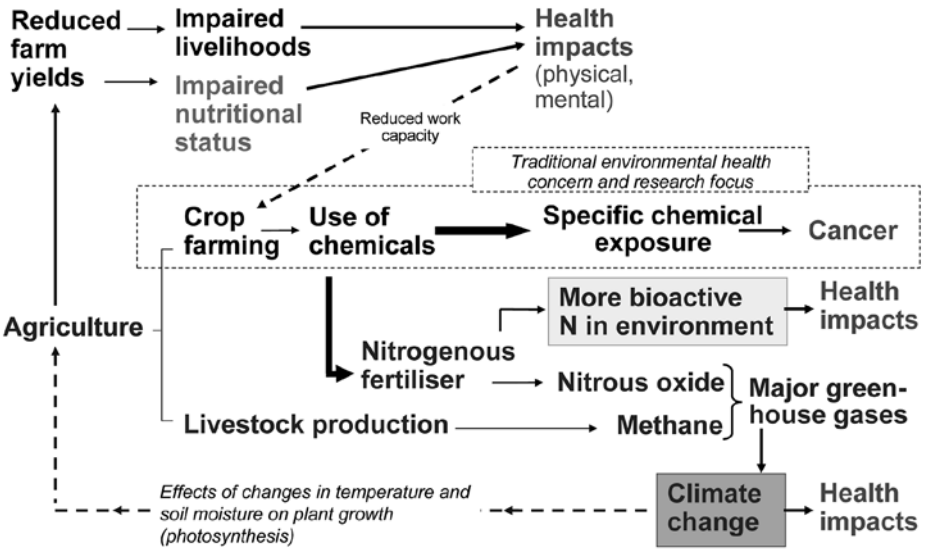

Figure 5.2 **The diagram illustrates, first, the conventional epidemiological approach to an environmental threat to health – see the causal pathway leading from a specific chemical exposure (farm chemicals) to a specific disease outcome (cancer). However, agricultural practices have many other impacts on the wider environment, and some of them, when aggregated across populations (for example, greenhouse gas emissions), affect global environmental systems. These global environmental changes, in turn, affect health, including via impacts on food yields**

in particular, model the future likely risks, in order to assist societies to make proactive policy decisions to abate these potentially serious, even disastrous, global environmental changes.

Indeed, it is now believed that many critical environmental systems are now approaching thresholds of safety, even 'tipping points' – situations where ecosystem function changes significantly and possibly irreversibly, affecting the environment at regional to global scales (Rockstrom et al. 2009). Examples include the accelerated melting of continental ice sheets in the polar regions, dieback of the Amazon rainforest, eutrophication of fresh water lakes, death of coral reefs and the release of biosequestered carbon and methane from melting permafrost and deep ocean reservoirs ('clathrates'). Critical boundaries and tipping points are difficult to predict with precision (both in time and space), and exceeding them can have catastrophic impacts on ecosystem services and human well-being.

Note, also, that this is where the role of the Precautionary Principle looms large. If risks are potentially great, and if taking avoidance action, now, entails tolerable

'costs', then prudent action should be taken in order to maximize the chances of sustaining an intact and (human) liveable future world.

Human-Induced Climate Change as Exemplar

Human-induced (anthropogenic) climate change clearly illustrates the diversity of direct and indirect pathways by which systemic environmental changes can affect human health (McMichael et al. 2006).

Much recent research on the climate system has clearly indicated that human actions are now influencing Earth's climate – and will continue to do so, given current demographic trends and economic development paths (IPCC 2007b; Rockstrom et al. 2009). Earth has warmed by around 0.7°C since the mid-twentieth century, and mostly since the mid-1970s (IPCC 2007b). Most of that warming has been attributed to the human-induced increase in greenhouse gas (GHG) concentration in the lower atmosphere over the past half-century (IPCC 2007b). The resultant additional 'greenhouse' absorption of infra-red energy, re-radiated outwards from Earth's surface, translates into extra heat in the lower atmosphere and hence global climate change – a combination of warming, changes in rainfall patterns, altered winds and greater weather variability.

Global average surface warming in the range of 1.8°C–4.0°C by 2100 has been estimated for a range of plausible future global emissions scenarios (IPCC 2007b). Most of that range of temperature increase (especially beyond mid-century) reflects unavoidable uncertainties about future patterns of population growth, economic development, governance and technologies. Critically, climate change is proceeding faster, and with more unexpected manifestations, than was predicted by climate scientists only a decade ago (Rahmstorf et al. 2007; Steffensen et al. 2008), and the slow momentum of the climate system means that there is additional human-induced warming yet to occur – even if anthropogenic emissions of GHGs ceased immediately. Yet, currently, global GHG emissions are still rising (Meinshausen et al. 2009).

As shown earlier in Figure 5.1, the direct risks to health from climate change include thermal stress from rising temperatures and heat waves, and more frequent and more severe extreme weather events (floods and storms for example). The threats from sea-level rise include physical hazards from coastal inundation, more extensive episodes of flooding, increasingly severe storm surges (especially at times of high tide) and damage to coastal infrastructure (roads, housing and sanitation systems), often accompanied by outbreaks of vector-borne and water-borne disease (McMichael et al. 2006, Ivers and Ryan 2006).

Indirect effects on health will occur particularly from the impacts of climate change on food yields (from crops, livestock and fisheries) and hence on human nutrition and its many health consequences, and from influences on the ecology of various infectious diseases, including the range and activity of vector organisms

such as mosquitoes. Other indirect effects will arise from storms and sea-level rise, including their impacts on productive farm land through inundation and salinization, especially coastal paddy fields (Kesavan and Swaminathan 2006). Adverse mental health consequences are likely, associated with property loss, break-up and displacement of communities and tensions between displaced and receiving groups (McMichael et al. 2010).

Note that climate change is just one of many human-induced global environmental changes, and it rarely acts in isolation. Thus, many health impacts will result from the convergent, often interactive, effects of several environmental changes. An important example is the threat to food yields, human nutrition and health associated with climate change in combination with land degradation, water shortages, biodiversity losses and changes in nitrogen and phosphorus cycling in the biosphere (Ingram et al. 2010).

All countries face increased health risks from climate change. The most recent Assessment Report of the Intergovernmental Panel on Climate Change (IPCC 2007a) identified a wide range of risks to human health, including increasing child malnutrition and consequent disorders relating to growth and development, increasing numbers of people suffering from death, disease and injury from heat waves, floods, storms, fires and droughts, changing ranges and transmission seasons of some infectious disease vectors, and increases in cardio-respiratory morbidity and mortality associated with rising ground-level ozone concentrations (IPCC 2007a). Some of these health impacts are almost certainly already occurring. In general, they will impinge most on poorer, less developed populations, especially where substantial health inequalities within and between countries already exist. Communities at particular risk include the urban poor, the elderly and children, traditional societies, subsistence farmers and coastal populations (Friel et al. 2008; see also Figure 5.3). Cautious extrapolation of estimates of climate change health impacts in the year 2000, for just four selected climate-sensitive health outcomes (McMichael et al. 2004), show that now, one decade later, around 200,000 deaths are likely to be occurring each year in the world's low-income countries as a result of reduced food yields and malnutrition, diarrhoeal disease, malaria and flooding. Most of those deaths occur in children.

Direct Impacts of Environmental Change on Human Health

An exhaustive overview of the diverse impacts of global environmental changes on human health is not possible in one chapter. Therefore, examples of direct and indirect health consequences are given below, along with descriptions of the environmental change processes.

Exposure to thermal extremes

Human body core temperature must be maintained at 37°C. As outside air temperatures approach and then exceed this level, physiological processes such as sweating and ventilation are increasingly unable to maintain this core temperature. The ongoing rise in temperatures around the globe will increasingly test the limits of human physiological tolerance. The resultant heat stress and thermal exhaustion will often lead to adverse respiratory, cardiac and renal impacts, as well as injuries and accidents under the stressed conditions, with increased mortality rates (Parsons 2003). The health risks posed by heat waves depend, too, on the baseline health and socio-economic status of the population, with the elderly, children, those with chronic disease, socially and or physically isolated communities and outdoor workers at greatest risk.

The large and growing populations in low-income countries in the warm equatorial regions, often with poor baseline health status, will face increasing exposures to higher temperatures (IPCC 2007a). This will place many additional people at risk of extreme heat exposure. Many of these societies rely on primary industry for income, and maintaining workforce productivity while safeguarding workers' health under increasingly hot conditions will be difficult. Adverse impacts of extreme heat on food crops and water supplies will also pose substantial health threats in many countries. Extreme heat will also pose health threats to populations in mid latitude regions, where extreme temperatures will be experienced more frequently, and for longer, especially in urban areas (exacerbated by the urban heat island effect). The extreme heat waves in western and central Europe in 2003 and in Russia in 2010 caused estimated excesses of 70,000 and 55,000 deaths, respectively (Barriopedro et al. 2011).

In contrast, some positive health impacts may occur in populations at higher latitudes (for example the colder temperate and polar regions). Here, naturally cold temperatures pose risks to health, and a warming climate may mean fewer cold-related deaths in these communities. However, given the uneven global distribution of human settlements, a small decrease in cold-related deaths in high-latitude communities will be overshadowed by the larger increase in heat-related deaths in mid latitude and equatorial regions.

Air pollution and aeroallergens

The atmosphere plays a critical role in maintaining the biogeochemical cycles and processes that human health depends on, such as water, nitrogen, carbon, sunlight and natural 'greenhouse' warming. However the lower atmosphere, particularly during the modern industrial age, has been heavily polluted in many regions, and this poor air quality is demonstrably a cause of premature deaths, some cancers and various non-fatal adverse respiratory and cardiac impacts (Schwela 2000; Brunekreef and Holgate 2002).

Current concern, however, focuses on carbon dioxide and other GHGs that are driving global climate change and, thus, many threats to health. Meanwhile, continued fossil fuel combustion (unless the magic of 'clean coal' is realized) will increase particulate matter concentrations, and warmer urban temperatures will enhance the photochemical reactions that produce ozone and other photochemical air pollutants (Ebi and McGregor 2008). Climate change is also likely to increase the concentration of aeroallergens (pollen, fungi and bacterial spores) as higher atmospheric carbon dioxide levels and warmer temperatures encourage flowering, enhance pollen production and facilitate the spread of allergenic plant species across new geographic ranges (Beggs 2004). Such impacts are already being documented in highly allergenic plant species in Europe, including birch (*Betula* spp.), alder (*Alnus* spp.) and western ragweed (*Ambrosia* spp.). The pollen season is advancing (by days to several weeks), with earlier spring flower initiation and pollen release, more pollen produced per plant and more allergenic pollen produced (Ziska et al. 2009; Beggs 2010).

Stratospheric ozone depletion and increased UV exposure

The stratospheric ozone layer protects humans and other species from exposure to biologically dangerous levels of UV-B radiation. This ozone layer (of O_3 molecules) is itself a product of life on Earth, having formed several billion years ago when early photosynthesizing marine plants began releasing oxygen into the atmosphere – a global process that ultimately enabled life on land due to lower (safer) levels of radiation. In the 1980s, the increased use of gaseous chlorofluorocarbons (CFCs, primarily used as aerosol propellants and refrigerants) was recognized as causing the destruction of ozone molecules, especially over Antarctica and in temperate and polar regions in both hemispheres (De Gruijl and van der Leun 2000). Although CFC emissions have now been substantially reduced, via agreed international protocols, the stratospheric ozone layer is unlikely to be fully restored until the middle of this century.

Note, however, that *some* UV exposure is necessary for human health. UV radiation is essential to manufacture Vitamin D, a critical element in maintaining musculoskeletal strength. It is the disease burden due to *excess* UV exposure that is of concern (Lucas et al., 2006). The health risks of increasing UV-B radiation include skin cancers, skin damage (keratoses), sunburn, cataracts, pterygium, eye cancers, reactivation of latent viral infections and altered cellular and immune system responses (de Gruijl and van der Leun 2000; Lucas et al. 2006). The net impact of increased UV radiation on population health depends on the interaction between UV levels (which depend on stratospheric ozone concentrations, cloud cover, latitude, season and air pollutants), the skin pigmentation and genetics of those exposed, and the human behaviours that affect UV exposure (such as the use of sunscreen, shade-seeking behaviours and cultural influences on dress and outdoor activities) (Lucas et al. 2006).

Water quality

Human activities affect the quantity and quality of water that moves through an ecosystem. The obvious disruptions to natural systems caused by large-scale water catchments, dams and hydroelectric plants are exacerbated by other common activities associated with human settlement, such as deforestation, road construction and urban sprawl. These activities affect run-off volume, turbidity and micro-organism content (especially after intense rain events, which flush animal waste and agricultural chemicals into catchments).

Human activities also cause eutrophication of fresh water lakes, rivers and reservoirs. This process is driven by phosphorus and nitrogen pollution from agricultural run-off (from fertilizer), sewage effluent and detergents that contaminate the water with high nutrient loads that encourage excessive plant and algal growth. The decay of these plants and algae then depletes oxygen levels in the water, causing further plant die-off as well as that of fish, birds and invertebrates. Beyond a threshold of phosphorus accumulation, natural recycling mechanisms are activated that keep the system locked in a eutrophic state, even after phosphate inputs are decreased (Leadley et al. 2010).

The salinization of freshwater supplies is a particular problem for many small islands and coastal cities, especially as their water supplies are encroached upon by coastal erosion, sea-level rise and urban development. Further, many large cities are over-drawing water from underground aquifers, leading to land subsidence beneath the city and salt water intrusion; they include London, Mexico City, Shanghai, Bangkok and Venice (Waltham 2002). Empty aquifers are also prone to collapse, which further reduces capacity for future fresh water supply and storage.

Pervasive organic chemicals and endocrine disruption

Health hazards from exposures to organic pesticides, heavy metals, sulphates, nitrates, dioxins, organophosphates and others are well recognized. A new dimension of this hazard has recently arisen with the increasing use of synthetic persistent organic pollutants (POPs). Environmental processes (including via adjoining atmospheric circulation 'cells') transport many POPs from low- and mid- latitude source regions (predominantly high-income industrialized countries) to high-latitude polar regions. This results in the bioaccumulation of POPs in local biota and in human populations that feed upon them. POPs can disrupt hormone function and endocrine development, and are associated with impaired reproduction (including infertility), infant development, and neurobehavioural function, as well as immunologic abnormalities, birth defects, altered sex ratios and cancers (Solomon and Schettler 2000). Some Inuit in northern Canada already have body burdens of POPs above national health guidelines (Solomon and Schettler 2000; Donaldson et al. 2010).

Indirect Impacts of Environmental Change on Human Health

If current trajectories persist, it is likely that climate change and other large-scale environmental changes will increasingly have indirect effects on human health. These indirect effects may, in future, account for most of the adverse impacts of environmental change on human health, including via increases in food shortages and malnutrition, altered patterns of infectious disease, and the many health risks associated with population displacement, tensions and conflicts.

Food supply, food insecurity and malnutrition

Since the advent of farming, food shortages and nutrient-poor content of agricultural produce have impaired growth and health in many populations (McMichael 2005; McMichael and Butler 2005b). Historically, land-clearing, ploughing, fertilizing and multi-cropping expanded the local environmental 'carrying capacity' and enabled populations to grow. There are, however, limits to the productive and absorptive capacity of agroecosystems. Hence, the convergence of various global environmental changes threatens future food security, health and survival. Such environmental stressors include land degradation, water shortages, ecosystem disruptions (for example, those that support pollinator species), disturbances to elemental cycles (especially nitrogen and phosphorus), and climate change. For example, modelling has indicated that in the tropics, sub-tropics and many temperate regions, the hottest agricultural growing seasons on record from 1900 to 2006 will become the future 'norm', with the extreme heat likely to cause substantial damage to agricultural productivity, farm incomes and food security for more than three billion people (Battisti and Naylor 2009).

Many of the world's fish stocks are under great threat from industrialized fishing fleets, escalating human numbers, rising consumer demands, ocean warming and (in the coming decades) the likely weakening of the marine food web by gradual ocean acidification (due to increasing uptake of carbon dioxide) (McMichael and Butler 2005a). Fish consumption has many health benefits and is a crucial source of protein for many low-income populations. However, national and international dietary guidelines are now needed to balance environmental sustainability with public health goals and equity issues.

A similar debate applies to meat production, especially red meat from ruminants. While meat is a high-quality energy-rich food, meat from domesticated (selectively bred and, often, artificially fed) livestock typically contains much saturated fat. Further, many high-income populations eat substantially more meat than is needed nutritionally, with resultant increases in risks of cardiovascular disease, large bowel cancer and, perhaps, breast cancer (McMichael et al. 2007; Friel et al. 2009). The adverse environmental impacts of meat production are many, including extremely high water requirements, land-clearing for pasture and feed production,

nitrogenous wastes from fertilizer and manure, and substantial greenhouse gas emissions – especially methane from enteric fermentation and regurgitated by ruminants.

Further health risks arise from modern intensified food production. The force-feeding of UK cattle with recycled animal offal in the 1980s (to hasten growth) led to 'Mad Cow Disease' and, later, its human neurodegenerative equivalent: variant Creutzfeldt-Jakob Disease (Nathanson et al. 1997). Agricultural intensification and habitat destruction also increases exposure to zoönotic infections, such as the previously unknown Nipah virus which killed several hundred pig-farm workers in Malaysia in the late 1990s following forest-clearing, concurrent climatic stresses and the resulting disruption of feeding sources for virus-harbouring fruit bats (Daszak et al. 2000; Chua 2003; Daszak 2006).

Water stress

The global total of water-stressed populations has increased in recent decades. This reflects a mix of increased population numbers, greater production-related demands (primarily agriculture and industry), and, in some regions, the early impacts of climate change on rainfall patterns and snow- and ice-melt sources of fresh water. In addition to reduced river flows and increased river-water withdrawals in many regions, a number of the world's great aquifers (for example in northern China, India and mid west USA) are being depleted.

Changes in water flows, water storage and in local rainfall patterns (for example increased flooding, due to climate change) can cause microbial contamination (by cholera, cryptosporidium and other diarrhoeal organisms) and changes in infectious disease vector populations (such as mosquito breeding sites and water snails as schistosome hosts). Water insecurity will adversely affect food yields, especially in marginal agricultural zones, and is increasingly likely to cause conflict over diminishing water resources.

Medium-range climate change scenarios for rainfall, surface run-off and depleted glaciers project that, by 2080, water scarcity will encompass an estimated 1–3 billion people (IPCC 2007a). Concerns over water scarcity are rising in vulnerable regions such as India, Bangladesh, Myanmar and the Mekong River basin, where Himalayan glacier loss is beginning to affect flows and where there is the prospect of inter-country tensions because of upstream diversion of flows. For example, China is likely to impound some of the Himalayan source water that would normally flow off the Tibetan plateau to the great rivers of south and southeast Asia.

Vector-borne, food-borne and water-borne infectious diseases

Many infectious diseases are sensitive to environmental and climatic conditions. This relates to the survival and transmissibility of the infectious agent, the biology

and behaviour of vector organisms (for example, mosquitoes) and intermediate (non-human) host species, and changes in patterns of human exposure via land-clearing, species displacements and animal invasions into urban areas. An obvious example is that bacteria in food multiply in warmer conditions. A clear positive relationship has been shown between monthly temperatures and the incidence of salmonella food-poisoning (D'Souza et al. 2004). Rising ocean temperatures seem to have contributed to one of the largest known outbreaks of *Vibrio parahaemolyticus* (a common cause of seafood-associated bacterial gastroenteritis) in the United States. It was thought that Alaskan coastal waters were too cold to support *V.parahaemolyticus* in sufficient numbers to cause infection, but mean water temperatures at an oyster farm had been slowly increasing over the preceding decade and in 2004, the year of the outbreak, mean water temperatures at the oyster farm did not drop below 15°C – the theorized threshold of risk for *V.parahaemolyticus* infection from raw oyster consumption. This outbreak extended the geographic range of *V.parahaemolyticus* approximately 1,000 km further north than previously known (McLaughlin et al. 2005).

The marine ecosystem also appears to have a critical role to play in the occurrence and transmission of cholera. Studies have shown that plankton is a significant environmental reservoir of *Vibrio cholerae*, where the bacterium enters a non-culturable, or 'resting' stage, whilst maintaining viability and infectivity. Warmer sea surface temperatures and nutrient-rich waters following the rainy season encourage accelerated plankton growth and result in large phytoplankton blooms. Linear correlations between increases in ocean temperatures and *V.cholerae* growth have been observed in estuarine waters on the Atlantic coast of the USA (Chesapeake Bay), the Adriatic coast of Italy, South America (Peru), the Black Sea (Europe) and the Bay of Bengal in southeast Asia. Further, increases in sea surface temperature have been directly correlated with the occurrence of cholera in Bangladesh (Colwell and Huq 2001).

Many vector-borne infections (transmitted by mosquitoes, other insects or rodents) are sensitive to temperature, rainfall, humidity and wind. For example, the cholera bacterium is highly resistant to environmental stress and can remain (in abundance) for long periods until conditions are more suitable (de Magny et al. 2008; Vezzulli et al. 2010). Within limits, as temperature rises, pathogens such as the malaria plasmodium and dengue virus mature more quickly within the mosquito, while the mosquitoes themselves feed more often, thus increasing the likelihood of disease transmission. Environmental stressors can also increase the virulence of infection, producing larger numbers of bacteria per infected host and more toxic variants, with resultant increases in risk of disease transmission (de Magny et al. 2008; Vezzulli et al. 2010).

In considering the likely impacts of climate change, it is important to note that climatic conditions impose limits on the range, seasonality and transmission efficiency of infectious disease, thus determining where and when a particular infectious disease *could* occur. However, climate does not usually determine where, on a local scale, the disease *will* occur. Many other factors (environmental, social, cultural, technological and public health practice) determine where infectious

disease actually occurs. Nevertheless, the geographic range of some vector-borne infections appears to have increased recently in association with regional warming (McMichael and Woodruff 2008); examples include malaria in eastern African highlands, tick-borne encephalitis in Sweden, Lyme Disease in Canada and schistosomiasis in eastern China. Meanwhile, in Europe, blue-tongue virus disease in livestock has extended northwards, as has the midge vector (Purse et al. 2005).

Land-use and vegetation density, plus surface water, often affect the occurrence of parasitic diseases (Patz et al. 2000). Research in the Peruvian Amazon has shown a positive relationship between the extent of deforestation and the density of the major malaria vector mosquito *Anopheles darlingi* (Vittor et al. 2006). Studies in the Mekong Valley and delta regions have shown that remotely-sensed indices of vegetation correlate positively with both the density of anopheline mosquito populations and malaria incidence (Nihei et al. 2002; Liu and Chen 2006).

Zoönotic diseases intermittently spill over into human populations from animal sources and are often influenced by climate-related changes in the density and movement of the 'reservoir' vertebrate animal species. Examples include West Nile Fever, now widespread in USA and Canada after the first arrival in New York City in 1999 (birds are the natural reservoir); Rift Valley Fever (Kenya: cattle); and Ross River Virus (Australia: kangaroos and wallabies) (McMichael and Woodruff 2008). Approximately 60 per cent of emerging infectious diseases over the past 60 years are zoönotic in origin (Bernstein and Ludwig 2008).

Psychological stress, social and cultural disruption, population displacement and environmental 'refugees'

Some health effects occur at several removes from the actual change in environment. For example, the recent loss of sea-ice and permafrost has disturbed traditional living, hunting and eating patterns in some Inuit communities of northern Canada. This has increased reliance on imported energy-dense processed foods, thus amplifying the incidence of obesity, cardiovascular disease and diabetes (Kuhnlein et al. 2004; Curtis et al. 2005).

Population displacement involves many health risks: under-nutrition, exposure to infectious diseases, conflict, mental health problems and altered health-related behaviours such as alcohol consumption, smoking and perhaps transactional sex. Climate change is likely to cause a marked increase in human movement, within and between nations. One fifth of the world's population lives in coastal areas at risk from rising seas and natural disasters – especially those living in major river deltas (for example, in Bangladesh and Egypt), parts of Central America, eastern China and India, and many small island states (Hegerl et al. 2007). Populations in the Maldives, Tuvalu, Kiribati and parts of the Caribbean face whole-nation displacement (Loescher et al. 2008).

The mental health consequences of these physical, social and cultural disruptions pose an increasingly important risk to health. Mental health disorders including post-traumatic stress, depression and anxiety are more prevalent in

adults with a history of trauma in their lives, including those who have survived a natural disaster and those who have been forced to flee their homeland under duress. Both of these are likely scenarios with future global environmental change. The clouded future of the world's climate, and its ecological, environmental and social consequences, has particular significance for younger people, particularly in light of evidence that a single traumatic childhood experience can have significant lifelong adverse impacts on psychological and physical well-being (Deering 2000; Neria et al. 2008).

Loss of biodiversity

The evolution of life forms over millennia has produced a diversity of biochemical and molecular products, pathways and mechanisms that we are only just beginning to understand and apply to human health. Only about 1.5 million species on Earth have so far been identified, while there may be 10–100 times that number of species as yet unidentified. Recent discoveries include the first known living organism (a bacterium) that does not need phosphorus, long thought to be essential for life, but instead uses arsenic to grow, reproduce and for photosynthesis in anoxic conditions (Kulp et al. 2008; Wolfe-Simon et al. 2010).

Meanwhile, human actions, including the loss and fragmentation of habitats, climate change and the over-harvesting of certain species (Chivian 2001; Bernstein and Ludwig 2008; Leadley et al. 2010), are causing species extinctions at a rate that is 100 to 1,000 times faster than has previously occurred in nature. Our species is thus responsible for 'the sixth extinction' over the past half billion years (the fifth extinction ended the age of dinosaurs, 65 million years ago).

Biological models have been of critical importance in understanding human physiology and disease processes, including the use of mice as experimental subjects, horseshoe crabs and squid in nerve cell research and fruit flies in genetic research (Chivian 2001). Further, nature has provided many microbial compounds and enzymes that form the basis of many medicines, including penicillin, antibiotics, pain killers and chemotherapy drugs (Bernstein and Ludwig 2008). Taxol, a mainstay chemotherapy drug, is derived from the bark of the Pacific Yew tree, which was originally regarded as commercially useless and discarded as trash during logging operations. Taxol is now known to kill cancer cells by a totally novel mechanism (Chivian 2001). About half of all new drugs approved by the US Food and Drug Administration in the past 25 years come from nature (Bernstein and Ludwig 2008).

Biodiversity loss, of both species diversity and species abundance, represents the loss of as-yet-unidentified species of plants, animals and micro-organisms, and thus the loss of countless potential medicines, biological models and informative mechanisms relevant to human health. For example, sharks have powerful, experimentally tested, infection- and cancer-fighting molecules, including squalamine. The continuing over-fishing of shark species (especially for the status-demonstrating consumption of hyper-expensive shark fin soup in East Asia) could

therefore preclude new learning from study of their unique immune systems (Chivian 2001).

Hibernating species, such as bears, squirrels and amphibians, undergo seasonal changes in metabolism, affecting insulin-resistance and weight gain, and thus increasing their resistance to hypothermia, ischaemia, bacterial infection and musculoskeletal decline during hibernation. For example, black bears hibernate for 3–7 months each year, without eating, drinking, urinating or defecating, yet they can still deliver and nurse young, and maintain bone density and lean body mass without becoming ketotic or uremic (Chivian 2001). Studying these biological mechanisms may help elucidate human diseases related to insulin-resistance, diabetes, osteoporosis, renal failure and other metabolic disorders (Chivian 2001; Grant 2004).

Biodiversity also affects human health via interactions within ecosystems that produce 'ecosystem services'. Such interactions include those that yield vital health-protective functions, such as regulating oxygen, carbon dioxide and water vapour concentrations in the atmosphere, filtering pollutants from drinking water, regulating global temperature and precipitation, forming soil and maintaining its fertility, pollinating plants, providing food and fuel, maintaining equilibria between predator and prey species and controlling the emergence and spread of infectious diseases (Chivian 2001).

The critical importance of pollinating species, such as insects and birds, to the world's food yields was noted in Figure 5.1. Their loss would result in plants failing to fruit or produce fertile seed for planting in the following season. Another such example comes from the early 2000s, when the increasing depletion of fish stocks in western equatorial Africa led to increased reliance on hunting bush meat for food. Within a year, two previously unknown retroviruses were detected in the blood of local people, most likely transmitted via the consumption of non-human primate meat and reminiscent of the initial transmission of HIV into humans (Bernstein and Ludwig 2008).

Biodiversity also bears on the emergence and transmission of infectious diseases, which often involves multiple species as hosts, reservoirs or vectors (Keesing et al. 2010). Biodiversity affects the abundance, behaviour and health of all the species involved, with natural Darwinian competition yielding a balance between species that may act as a buffer against infectious disease outbreaks (Keesing et al. 2010). It is not known how many viruses or other infectious agents in the environment, potentially harmful to humans, are held in check by the natural equilibria provided by biodiversity and ecosystem services (Chivian 2001).

Attributable Burden of Disease: Vulnerability and Equity

The multiplicity of pathways, some of them complex, linking environment and human health makes it difficult to estimate the burden of disease attributable to any one particular environmental change. Further, the health impacts of

environmental change will be felt very unevenly across the globe – and those most at risk are often least responsible for the change (McMichael et al. 2006; Friel et al. 2008). This certainly applies to global climate change, which is driven by the accumulation of GHG emissions primarily from past and present fossil fuel combustion in high-income countries. Yet the regions most at risk from rising temperatures and sea-level rise are mostly the low-emitting lower-income countries. This inequality is illustrated in Figure 5.3, which proportionally maps

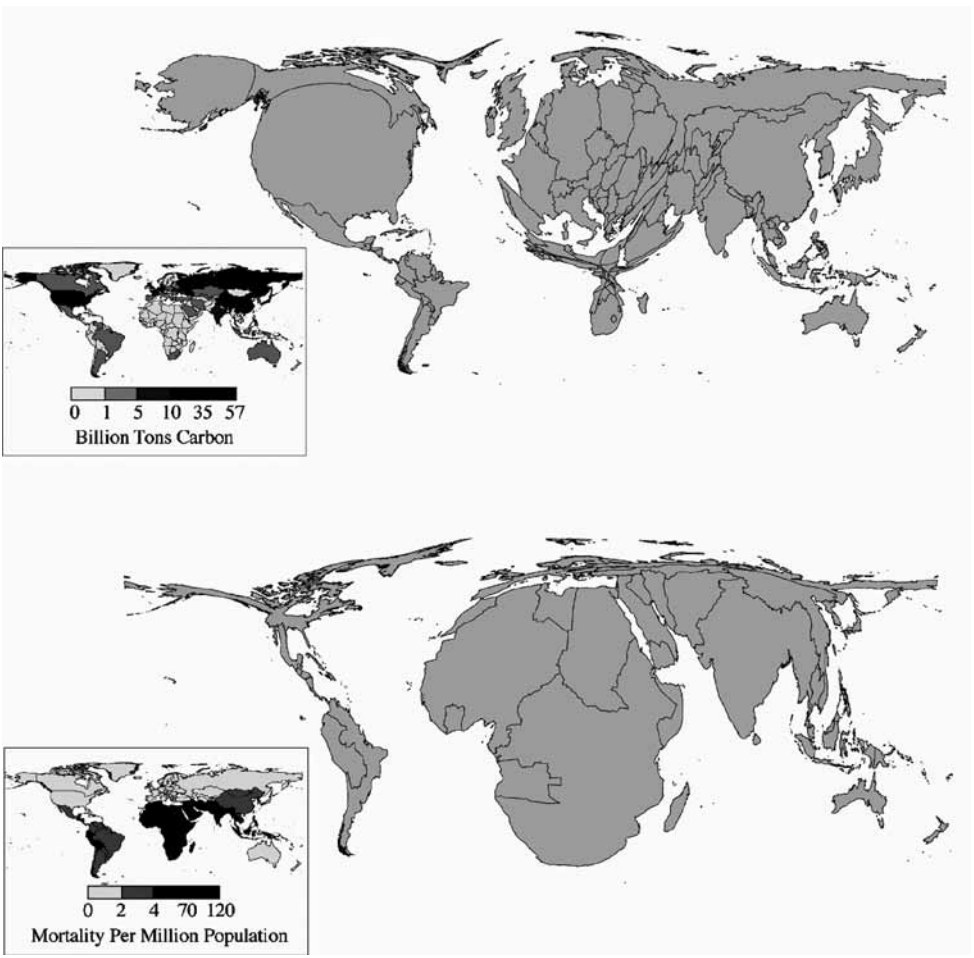

Figure 5.3 Comparison of cumulative carbon dioxide emissions (by country) for 1950–2000, as compared to the regional distribution of (aggregated) mortality, in 2000, attributable to four climate-sensitive health effects (malaria, malnutrition, diarrhoeal disease and flood-related fatalities)

Source: Patz et al. 2007, 400; used with permission from J.A. Patz.

cumulative carbon emissions and mortality attributable to climate change – the inverse relationship is startling.

Vulnerability to adverse health impacts varies between countries, regions, communities and individuals, and depends on various characteristics of the local environment and its inhabitants. Vulnerability is a function of the external level of exposure to a risk factor (for example, high ambient temperature), the population's sensitivity to that risk factor (as determined by age, health status, housing quality and prior experience of heat), and the population's capacity to adapt to changing conditions (such as the availability of air conditioning and occupational health regulations).

At this relatively early stage of climate change, populations in low-income countries appear to be at greatest risk of adverse health impacts. However, in the long term, climate change, other large-scale environmental changes, and their many ecological and social impacts, can be expected to adversely affect the health of populations everywhere. Global environmental changes represent systemic weakening and degradation of life-support systems and processes. Importantly, many climate change mitigation strategies can reinforce population health promotion (Haines et al. 2009). This provides a (welcome) *positive* message about the types of incidental, 'no risk', social and health benefits that accrue locally from actions taken to avert global environmental change.

For example, actions taken by local or national governments to reduce atmospheric GHG concentrations by reducing fossil fuel combustion will improve urban air quality. Increased use of mass transit, cycling and walking will increase physical activity, reduce obesity and stimulate social contacts. In high-income countries (where red meat consumption exceeds dietary needs), a reduction in meat production and consumption would confer several health and environmental gains, including decreases in some cancers and lower production of enteric methane (which has a greater warming effect than carbon dioxide) by ruminant animals (cattle, sheep and others) (McMichael et al. 2007). Re-forestation projects would help restore the supply of dietary diversity in some regions, along with increases in medicinal substances and other health-related materials (Sala et al. 2008). Health 'co-benefits' such as these should, therefore, provide a stimulus for farsighted commitments and actions in relation to climate change and other large-scale and systemic environmental changes.

Conclusion

The environmental health agenda in the twenty-first century encompasses much more than it did during the previous two centuries, when the more localized environmental consequences of industrialization and urban living posed risks to local population health. Today, the size of the human population, the scale of its activities and the resultant pressures on the environment are straining the planet's fundamental life-support systems. The resultant environmental losses, ecological

disruptions, physical damage and social destabilization will, in most cases, translate into adverse consequences for human well-being, health and survival.

There is, in this momentous emerging topic, a need for a new and expanded capacity to study, understand and respond to the complex processes of, and interactions between, the natural systems of the biosphere and the human-built environment. We need to think more in 'systems' terms – and to apply a more integrative perspective in health research and policy formulation. Applying this essentially 'ecological' perspective will enrich research and policy thinking in other domains. For example, the conventional approach to quantifying the health impacts of the urban environment considers cities as an aggregation of specific toxic exposures (lead from petrol, air pollutants, noise levels, road trauma and so on). However, when considering the urban environment as a system that both reflects and affects human ecology, the topic then expands to include (for example) considerations of the impact of urban design and transport systems on physical activity (and obesity), social contact and mental well-being, the spread of infectious disease due to the influences of vector micro-habitats and human contact networks, the heat-trapping properties of built environments ('urban heat islands' that exacerbate heat waves), and patterns of energy use and thus impacts on human health at home and abroad.

A new awareness of the many environmental systems and processes that provide the continuing and necessary supports for human population health, and an awareness of the impacts that human populations have had and, increasingly, continue to have on these environmental assets, should strengthen our resolve, as a global community, to reduce and then avert future human-induced global environmental change. That way lies true sustainability.

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Reaching behind Borders: International Trade and Chronic Disease[1]

K.S. Mohindra, Raphael Lencucha and Ronald Labonté

Introduction

Since the rise of industrial capitalism, theoretical support for freer international trade has been based largely on presumed net welfare gains arising from efficiencies due to increased competition. According to classical economic theory, countries can minimize their risks and maximize their gains from such competition if they focus on products for which they enjoy a comparative advantage. However, when this theory was developed, finished goods were traded across borders, while today much international trade is intra-firm between branches of a single multi-national company or between a multi-national company and its subcontractors. Then, capital was immobile; today it flows freely across borders. And the difference in estimated wealth between the richest and poorest quintile of countries was roughly 3:1, almost two orders of magnitude less than today (UNDP 1999).

Like trade itself, health concerns associated with the flow of goods are not new. The link between trade routes and infectious disease has been well documented (Fidler 2003a; Kimball 2006), and there is increasing evidence that global trade is also linked with the rise of chronic disease in many low- and middle-income countries (LMICs). This linkage is associated, in part, with the global diffusion of unhealthy lifestyles and health-damaging products (Beaglehole and Yach 2003; Hawkes 2006), posing a particular challenge to countries still facing high burdens of communicable disease.

The chapter takes up this last point by first examining how trade liberalization is thought to influence social welfare, generally, and chronic disease, specifically. This includes an assessment of trade liberalization as part of the larger neo-liberal

[1] This chapter draws from Labonté (2011) and Labonté, Mohindra and Lencucha (2009).

economic orthodoxy that has dominated international policy-making for the past three decades. The basic premise of this orthodoxy – that trade liberalization will lead to economic growth, development and 'trickle-down' poverty reduction – has failed to live up to its theoretical promise. The chapter then turns to the actual and potential constraints trade treaties impose on the policy space and capacity of governments to regulate for health goals. This assessment is followed by more detailed accounts of trade agreements that directly affect health through liberalization of trade in potentially health-damaging products: highly processed and energy dense food, tobacco and alcohol. The chapter concludes with a discussion of the current or potential strategies to address chronic disease risks associated with international trade.

Trade Liberalization and Health: Some General Findings

Trade, poverty reduction and health

Poverty is one of the most important underlying determinants of disease, both infectious and chronic. A widely held belief that trade liberalization is good for health is based on the presumption that liberalization leads to economic growth that lifts increasing numbers out of poverty (Dollar 2001; Dollar 2002; Dollar and Kraay 2002). Health improves as poverty declines, while increases in wealth generated by international trade can be taxed for investments in human capital (health, education, women's empowerment). More productive and skilled workers spur the economy to ever greater growth and trickle-down health. While compelling, this narrative remains a contested argument relying more on ideology than evidence. Although most econometric studies find that trade liberalization on average is associated with better growth, this positive relationship 'is neither automatically guaranteed nor universally observable' (Thorbecke and Nissanke 2006, 1342). It depends, in part, on some of the flexibilities in domestic economic and social policy that are being eroded by ongoing multi-lateral and bilateral trade treaty negotiations, a point taken up later in this chapter.

As well, trade-related growth does not inevitably trickle down to lift people out of poverty, or at least does not lift many people far. It is now widely accepted that world poverty, at least until the 2007/2008 global financial crisis, had decreased. Between 1981 and 2005 the number of people living on less than USD1.25/day (the World Bank 'extreme poverty' measure) declined by 505 million (Chen and Ravallion 2008). However, if China is excluded from the global calculation extreme poverty actually increased by 123 million over this time period, with decreases in some parts of the world offset by greater increases elsewhere. Nor did worldwide economic growth lift people very far as the number of people living on less than USD2.50/day (the not-quite-extreme poverty measure) rose by 402 million (Chen and Ravallion 2008). Again, excluding China, the number of global poor at this

poverty level rose by 745 million to total almost 3.2 billion people. Although growth-related poverty reduction has accelerated in all global regions since 1996 (Fosu 2010), poverty reduction during globalization's peak decades of liberalized trade, during which the world's economic product quadrupled, was modest at best. And poverty increased after the 2008 global financial crisis; the World Bank (2009) estimated a rise in extreme poverty of between 50 and 200 million by the end of 2010.

Trade-related poverty reduction, when it does occur, is not without risks. Poverty reduction in China has been impressive, but it has also come with enormous present and future disease burdens associated with environmental pollution, which a World Bank study estimates kills 460,000 Chinese each year (World Bank 2007); occupational hazards, with estimates of annual fatalities ranging from 83,000 deaths and 300,000 injuries in 2010 to 127,000 deaths in 2006 figures (BBC News 2006; Hosier 2010); and displacement of rural livelihoods. These consequences, all of which have indirect implications for increases in chronic disease, have fuelled an increasing number of domestic riots and protests in China (Watts and Adam 2007) and have prompted attention in that country to expanded social protection measures (notably for basic health care) and development of 'green' technologies (the state subsidies for which became the focus of a potential WTO trade challenge by the USA, which fears it is losing competitive ground in such technologies to China, in December 2010).

Excluding the occupational and environmental consequences, trade liberalization *per se* is not necessarily bad for health; there is some evidence suggesting the opposite. A panel study of trade openness between 1960 and 1995, measured by the value of imports and exports/GDP and an index of trade openness policies, found that openness was associated with improvements in infant mortality and life expectancy at birth (Owen and Wu 2007). The authors, however, concluded that the best explanation for their findings lay not in the trickling down of economic growth, but in the greater exchange of health technologies, public health knowledge and foreign aid between high- and low-income countries. More open countries tend to adopt domestic economic policies associated with better health outcomes. Two important *caveats* remain. National level health data tell us nothing about the distribution of health gains within a country, which is important since the benefits of trade within countries are often unevenly distributed, and the period of study pre-dates the establishment of the World Trade Organization (WTO) and the growth of regional and bilateral trade treaties which can reach behind borders to constrain the very policy options that governments might use to promote gains in health.

Liberalization, development flexibility and fiscal capacity

This last point is the more pertinent since China and other successful late industrializers exercised trial-and-error in the timing and depth of their trade liberalization (Akyüz 2005; Rodrik 2005). Economic historian Ha-Joon Chang is one

of many who argue that contemporary trade rules will prevent other LMICs from adopting at least some of the *dirigiste* policies used successfully by developed and emerging market economies at their equivalent stage of development (Chang 2005b; UNCTAD 2006b). He refers to this as 'kicking away the ladder', in reference to the ladder-metaphor of growth found in classical development theories.

Even assuming that countries retain considerable flexibility within trade treaty rules, poorer nations may not be able to afford to act on them. A key concern here relates to the reduction in the revenues a country might earn from tariffs, negatively affecting their fiscal capacity to implement policies conducive to health and development. A fundamental goal of all trade liberalization negotiations is a reduction of tariffs. Despite years of such reductions under structural adjustment or advice from the international financial institutions (the IMF and the World Bank), tariffs remain an important source of public revenues in many developing countries, because they are administratively easy to collect (Baunsgaard and Keen 2005). In theory, developing country governments can shift their tax bases from tariffs to sales or income taxes, assuming their economies grow with increased liberalization. In reality many developing, and most low-income, countries have been unable to do so (Glenday 2006; Baunsgaard and Keen 2010), partly a result of inadequate institutions to implement alternate tax regimes (Aizenman and Jinjarak 2009). In a majority of these countries overall public revenues have declined, with implications for spending on health, education or public regulation that can affect primary and secondary prevention of chronic disease.

Moreover, and notwithstanding the economic gains of certain Asian and Latin American countries over the past decade, estimates of aggregate gains from a completed WTO Doha Development Round under a 'most realistic scenario' showed developed countries by 2015 gaining USD80 billion annually, while developing countries would gain only USD16 billion (World Bank 2008). Total gains from a completed round were equal to only 0.25 per cent of gross global economic product. An earlier (2006) analysis of aggregate economic gains and losses using four different scenarios of a Doha Round completion estimated annual real income gains for developed countries of between USD6 and 8 billion each for Japan, the USA and the EU 15 group of nations[2]; but annual real income losses of almost USD250 million for sub-Saharan Africa (Polaski 2006). As two senior UN officials recently said: 'Whatever the right assumptions are, all the different models come to essentially the same conclusion: Global gains of a Doha trade agreement are miniscule relative to world GDP and mostly accrue to large and more developed countries' (Sundaram and Arnim 2009, 212).

[2] Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

Trade, labour market change and health risk

Trade liberalization creates winners and losers within as well as among countries. Workers and producers in sectors protected from foreign competition may see revenues decrease or employment disappear when tariffs or regulatory barriers are removed. Negative impacts of liberalization are not limited to one-time adjustments to trade reforms. The dynamics of an open economy differ greatly from those of an economy relatively insulated from foreign competition. The weight of existing evidence generally supports the view that trade liberalization and openness increase economic insecurity (Bhushan and Blouin 2009; Schrecker 2009a). There is greater consensus in the research literature that financial liberalization and the movement of capital are more important determinants of economic instability than trade openness *per se* (Cornia 2001; Scheve and Slaughter 2004; van der Hoeven and Lübker 2006). Trade liberalization, however, is usually accompanied by increased openness to foreign capital and liberalization of financial markets and services.

The combined effect of trade and financial liberalization has been greater financial market volatility, increased frequency of external shocks and transmission of vulnerability across borders (of particular note being the 2008 global financial crisis), with subsequent rapid changes in labour markets and employment. These translate into increased economic insecurity for individuals, notably decreases in social protection programmes (particularly but not exclusively in poorer countries) and increases in 'non-standard' (insecure, part-time, precarious) forms of employment (Schrecker 2009a). Economic insecurity is closely linked to many chronic stress-related diseases such as cardiovascular problems, and its impact on health outcomes can be direct (Cornia, Rosignoli and Tiberti 2009). Insecure employment in particular is associated with increased stress leading to a greater risk of both infectious and chronic disease (Wilkinson and Marmot 2003; Polanyi et al. 2004).

Trade rules and policy space

Policy space is a term used to describe 'the freedom, scope, and mechanisms that governments have to choose, design and implement public policies to fulfill their aims' (Koivusalo, Schrecker and Labonté 2008, 7); trade treaties may shrink this policy space, precluding a range of domestic regulatory options. The extent to which this actually occurs remains a matter of debate and ongoing case law development through WTO dispute panel and appellate body rulings. Foreclosure of policy space results from a voluntary decision by countries' trade negotiators; although this 'voluntary' decision may be made under conditions of asymmetrical resources and highly unequal bargaining power (Stiglitz and Charlton 2005). As experience with the General Agreement on Trade in Services (GATS) shows, liberalization commitments have sometimes been made with implications that eluded even experienced trade policy analysts at the time of negotiations. Canada, for example, unintentionally committed to liberalize private health insurance while

the USA did the same for internet gambling, in both cases due to misunderstanding of the GATS schedules under which these services were listed (Sanger and Sinclair 2004; ICTSD 2007).

It is harder to find examples of situations in which governments have been prevented by current WTO disciplines from implementing objectives related to economic development or redistributive social policy to which they were genuinely committed. With respect to industrial policy, for example, most of the requisite legal flexibilities, though now considerably 'tighter', still exist within WTO treaties but could diminish over time. The greater problem at present lies in the lack of 'an explicit alternative vision of development policy' on the part of developing countries themselves (Amsden 2000) and in the more stringent constraints on public policy found in loan conditionalities of the IMF and World Bank, and in bilateral and regional trade agreements (Akyüz 2007). Such agreements are actively pursued by high-income countries due to stalled multi-lateral negotiations at the WTO where it is difficult to achieve the 'all or nothing' consensus required by WTO negotiating rules. There is nonetheless evidence of the constraining effects of trade treaties on access to health care (Pollock and Price 2000; Sinclair 2000; Campbell et al. 2003; Woodward 2005) and to essential medicines via expanded intellectual property rights (Ovtcharenko, Bonazza and Cohen-Kohler, this volume).

In the remainder of this chapter, we focus on trade in three (actually or potentially) health-damaging products: food, tobacco and alcohol. While consumption of these products is often viewed as a lifestyle choice, with public health interventions often targeting individuals, it is at least as much a reflection of corporate production and marketing strategies, government regulation (or lack thereof) and global trade and trade treaty disputes.

Food Trade and Health

We identify three general pathways linking trade and foreign direct investment to chronic disease by way of changes in the food system: growth of trans-national food corporations (TFCs); liberalization of international food trade and investment; and global food advertising and promotion. The pathways pertaining to changes in the social system, that is, the links between the diet transition and rising incomes, urbanization and changes in the labour market, are discussed in detail elsewhere (Hawkes, Chopra and Friel 2009).

Growth of trans-national food corporations (TFCs)

Food production, distribution and retailing have been consolidated into a small number of TFCs. Food retailers in particular have undergone an intense and rapid transformation; changes that took place in the US over a period of 50 years occurred in regions such as Latin America between 1990 and 2000 (Reardon and Berdegué

2002). In 2003, the top 30 food retailers controlled almost 30 per cent of the market in Latin America and 19 per cent in Asia and Oceania (Hawkes et al. 2009). Reardon and colleagues (2009) have labelled the retail transformation beginning in the early 1990s as a 'take-off' period, launching a 'supermarket revolution' and the rapid spread of fast food chains. The transformation can be characterized in two ways (Reardon and Berdegué 2002): rapid consolidation, in which a small number of supermarket chains eclipsed domestic chains and retailers, and rapid multi-nationalization.

The growth of supermarkets during the 1990s can be attributed partly to demand side factors such as urbanization, the entry of women into the workforce and economic growth (Reardon and Berdegué 2002). The supply side was driven by trade liberalization and foreign direct investment (FDI). Liberalization of trade – eliminating quotas, reducing tariffs and privatizing state trade agencies – was adopted by many LMICs either voluntarily or as a condition of structural adjustment loans from the international financial institutions initiated in the 1980s, with a quickening pace during the 1990s as many countries were subject not only to WTO disciplines but also those of regional, and bilateral trade agreements such as the North American Free Trade Agreement (NAFTA), the Central American Free Trade Agreement (CAFTA) and the Southern Common Market (MERCOSUR) (Hawkes et al. 2009). Specific examples of trade treaty effects on health-related food policies include the long-standing dispute between the European Union and several countries over the EU ban on hormone-treated beef (the ban violates requirements for scientific risk assessments under the WTO Agreement on Sanitary and Phytosanitary Standards) and the threat of a trade dispute involving the Gerber company and Guatemala over the latter's effort to abide by the infant formula code (International Code of Marketing of Breast-milk Substitutes) by banning the 'pudgy baby' picture on Gerber infant formulas, which the company argued was an infringement of its intellectual property rights (Labonté, Blouin and Forman 2010).

More generally, there is a close correspondence between a rise in FDI and increased investments in processed foods (Hawkes 2004). In Latin America, between 1988 and 1997, FDI in food industries grew from USD222 million to USD3.3 billion (Rayner et al. 2007). Such FDI has increased the presence of TFCs in most developing countries. This presence can increase food availability through reduction in retail prices following the removal of import barriers on food, depending on the dynamics of international and domestic prices. TFCs often purchase agricultural products at lower cost and promote economies of scale, but they also benefit from the lower agricultural cost of their own products. Hawkes and Thow (2008) demonstrate these effects in their analysis of the Central America – Dominican Republic – Free Trade Agreement, which the authors argue will likely lead to greater consumption of highly processed food, meat and other non-traditional foods in Central America. Supermarkets have focused on highly processed foods because of their long shelf lives and for the potential economies of scale (Asfaw 2007).

Liberalization of international food trade and investment

Trade liberalization can also affect diets by way of facilitating shifts from production for domestic markets to production of food crops or non-food commodities for export. Studies by the International Food Policy Research Institute (IFPRI) in the 1980s examined the nutritional impact of a series of cash cropping schemes in 10 developing countries. The findings suggested that cash cropping generally results in higher incomes and spending on food, but has a relatively small impact on energy intake, and, in most cases, little or no impact on childhood malnutrition (von Braun, Bouis and Kennedy 1994). Several projects actually had negative impacts on nutrition. Where improvements did occur, most were attributed to the control of income within the household. Female-controlled incomes were related to higher levels of caloric intakes among children, as women are more likely than men to allocate resources towards food.

A subsequent study by the United Nations Food and Agriculture Organization (FAO) examined trade liberalization and food security in 15 small and large developing countries.[3] The key finding was that 'trade reform can be damaging to food security in the short to medium term if it is introduced without a policy package designed to offset the negative effects of liberalization' (FAO 2006, 75). The study went on to caution that trade reforms generally benefit farmers producing export crops, but have negative impacts on farmers producing foods that compete with imports, especially those that are highly subsidized by exporting countries. More recently, several high-income countries have been entering into long-term land lease arrangements with poorer, indebted countries to grow food specifically to meet the needs of citizens of the high-income nations. This new development has increased concern over future food security in poorer countries (Borger 2008; Vidal 2009).

Hawkes and colleagues (2009) reviewed available evidence on links between international trade and dietary patterns. They found supporting evidence, notably from India and the Pacific Islands, that the increase in international trade has shifted dietary patterns from local, 'healthy' diets to the consumption of fattier diets. One study from Colombia found that the proportion of calories consumed from imported foods has increased over time, but the extent to its contribution to increased energy availability is not clear. There is a strong plausible link between the increased importance of supermarkets and dietary changes, although there is little empirical evidence due to a simple lack of studies on this topic (Hawkes et al. 2009).

Global food advertising and promotion

Advertising and promotion marks the third pathway through which trade affects food systems and chronic disease. In order to dominate in competitive food retailing markets, corporations employ aggressive marketing techniques. Spending

[3] Chile, Guatemala, Guyana, Peru, Cameroon, Ghana, Kenya, Malawi, Morocco, Nigeria, Senegal, Tanzania, Uganda, China and India.

on food advertising is now higher than it is for tobacco (Chopra and Darnton-Hill 2004). In 2004, billions of dollars were spent on the marketing of soft drinks by Coca Cola (USD2.2 billion) and PepsiCo (USD1.7 billion) (Rayner et al. 2007). The advertisement market is controlled by a few communications networks; processed food, especially targeted to children, has been the main focus of promotion and advertising (Hawkes et al. 2009). Global food advertising has especially targeted developing countries in its search for new markets, with a focus on highly processed foods. In 2002, almost 60 per cent of food advertisements in Brazil were for foods high in fats and sweeteners (Sawaya, Martins and Martins 2004). Advertising and product marketing has contributed to changing cultural expectations of food and the 'systematic moulding of taste by giant corporations' (Chopra and Darnton-Hill 2004, 1559). Marketing has been especially targeted to youth. For example, during the late 1990s soft-drink companies targeted school children by selling products in attractive combination packages in schools in Mexico and Colombia, which led to a 50 per cent increase in soft-drink sales among children (Hawkes et al. 2009). Evidence from industrialized and developing countries found that children engage with food advertising and that there is clear link between advertising to children and the consumption of these products (Hastings et al. 2007).

Tobacco Trade and Health

Liberalization of trade in tobacco products is a concern for its potential to offset declining use in developed countries by facilitating expansion of markets in developing nations. Trade can increase the disease consequences of tobacco consumption through three main pathways: trade and investment liberalization; the impact of trade rules on government autonomy (policy space); and trade, marketing and changes in social norms.

Trade liberalization has led to increased tobacco consumption in LMICs (Taylor, Chaloupka, Guindon and Corbett 2000), through a combination of tariff reduction, liberalization in FDI and minimal national tobacco control measures. This leads to increased competition in domestic markets, a reduction in the prices of tobacco products and an increase in advertising and promotion expenditures, all of which will lead to increases in tobacco consumption. As one example of this, Honjo and Kawachi (2000) found that market liberalization led to a one year increase in US tobacco products from 16 per cent in 1986 to 32 per cent in 1987 in Japan, a corresponding stall in the decline of tobacco consumption among adults, and an increase in the level of consumption among adolescent girls. When South Korea opened its domestic market to US cigarette imports, there was an 11 per cent increase in smoking among males and an 8 per cent increase among females in just one year (USGAO 1992). McGrady (2008) further cautions that 'the provisions of trade agreements governing non-tariff barriers to trade will limit effective and comprehensive tobacco control'.

Government autonomy and trade agreements

Tobacco products generally fall under the GATT (General Agreement on Tariffs and Trade, concerned primarily with the reduction of import taxes) and the Agreement on Technical Barriers to Trade (which covers non-tariff barriers to trade) (Taylor et al. 2000). Tobacco production would also be governed by the Agreement on Agriculture (with respect to permissible versus non-allowable subsidies to tobacco farmers), and tobacco marketing by both the GATS (with respect to advertising) and TRIPS agreements (with respect to regulatory restrictions that might restrict the use of cigarette logos, a form of intellectual property). The WTO system is considered to make tacit reference to health as an interpretative principle (Bloche 2002), encouraging member states to consider health implications of trade agreements, while not stating explicitly how health considerations should be incorporated. There are also explicit exceptions that allow countries to avoid trade rule compliance if it is 'necessary to protect human, animal or plant life and health' (WTO 1947, GATT article XX (b); WTO 1997 GATS XIV (b)). Dispute panels, however, have generally applied a stringent necessity test to these exceptions – requiring, in regard to tobacco control, that countries provide sufficient evidence that particular health measures such as labelling restrictions on cigarette packages are essential to protect the health of the population and that there is no other 'least trade restrictive' option available (McGrady 2008).

While using trade treaties to lower tobacco tariffs has been one tobacco industry strategy to increase LMIC consumption, arguably a more critical strategy has been using financial market liberalization to enter domestic tobacco markets. Referring to a now famous GATT dispute in 1990 involving Thailand and the United States, Callard and colleagues (2001) speculate that trans-national tobacco companies (TTCs) sought to buy-out or enter into joint ventures with the Thai government's tobacco monopoly in order to enhance their economic foothold in a large market and increase their political influence with the goal of weakening tobacco control legislation. The WTO dispute settlement panel concluded that the 'quantitative restrictions on the importation of cigarettes maintained by Thailand under section 27 of its Tobacco Act of 1966' was not in accordance with the WTO regulatory system and thus required Thailand to open its borders to the import of tobacco products (DS10/R-37S/200, 1990). The panel did rule in favour of Thailand's tobacco taxation system, given that its system treated domestic and international products in like manner.

GATS mode 3 (commercial presence) facilitates such investment when countries have committed different facets of their domestic tobacco industry to liberalization, although bilateral investment treaties probably play an even greater role. As of 1998 Philip Morris, an American TTC, drew over half of its cigarette profits from overseas (Weissman and Hammond 2000). In 2002 it was estimated that British American Tobacco controlled 50 per cent of all Latin American cigarette sales (Bialous and Shatenstein 2002). In the Dominican Republic, Philip Morris became sole owner of *Industria de Tabaco León Jimenes SA* and as a report of this buy-out suggests:

> Philip Morris could benefit and increase its market share in the Dominican Republic through more aggressive marketing now that it has complete control over the cigarette division. Philip Morris also could benefit from DR-CAFTA (Central American Free Trade Agreement) by exporting the products it manufactures in the Dominican Republic to Central America. (Euromonitor 2009)

A World Bank study estimated that cigarette production in LMICs rose from 40 to 70 per cent from 1970s to the late 1990s (Jha and Chaloupka 1999), the result primarily of the movement of TTCs into such countries through domestic company acquisition and FDI. In Argentina, for example, by 1995 approximately 90 per cent of the tobacco market was controlled by two tobacco corporations (Philip Morris Corporation and British American Tobacco), both foreign owned (Mejia and Perez-Stable 2006). In South Africa, British American Tobacco owns 93 per cent of the tobacco market (van Walbeek 2006). Foreign investment, in turn, is associated with increased consumption: Gilmore and McKee (2005) found that, among former Soviet republics, those countries that received FDI from TTCs saw an increase in tobacco consumption of 51 per cent compared to a 3 per cent drop in those that did not between 1991 and 2001.

Between 1970 and 2000 the number of hectares devoted to tobacco growing more than doubled in countries such as Honduras, Guatemala, Uruguay and Haiti (Thun and da Costa e Silva 2003). In Brazil, the amount of land committed to tobacco cultivation increased by approximately 60,000 hectares (Thun and da Costa e Silva 2003). This increase corresponds with the rapid opening of previously closed markets, the increased push for trade liberalization and the growth of the TTCs, all applying pressure to increase tobacco growing in such countries (Yach et al. 2007). While some tobacco farmers and producers may benefit from this shift to tobacco crop production, often for export as well as for domestic purposes, the shift has potential negative implications for domestic food security and access to nutritional foods with consequent risks to health, especially for the poor. It also poses direct health risks, especially to children who are frequently involved in tobacco harvest in low-income countries, where most of the world's tobacco is now cultivated (McKnight and Spiller 2005). A recent study of child tobacco workers in Malawi, the fifth leading tobacco producer, estimates that 78,000 children are exposed to 'Green Tobacco Sickness', absorbing nicotine at rates equivalent to smoking up to 50 cigarettes a day (PLAN 2009).

The Framework Convention on Tobacco Control

Trade treaties enable tobacco and tobacco products to cross borders more easily, with the greatest health concern arising from expansion of tobacco consumption in LMICs. TTCs, in turn, have sought to increase their share of the domestic market in LMICs through strategies that enhance the social image of smoking (Bialous and Shatenstein 2002) such as distributing cigarettes to youth, public advertising

and lobbying governments to ensure that such strategies are not countered by legislation (WHO 2008). On the one hand, trade negotiations have been used by TTCs as opportunities to ensure that domestic regulations do not seriously imperil such strategies (Shaffer, Brenner and Houston 2005); while on the other hand the Framework Convention on Tobacco Control (FCTC), negotiated under the WHO system, seeks to strengthen tobacco control policy and legislation on a global scale. The FCTC, considered to be the first global public health convention, was largely driven by public health activist groups and shows some promise for providing an international legal basis for prioritizing health protection over trade and foreign investment. However, Lo (2010) argues that unless guidelines are specified in the FCTC to restrict the FDI of the tobacco industry, the industry can continue to avoid tariff barriers (finished goods) while still increasing their presence in domestic markets.

The FCTC contains specific provisions to the effect that, assuming foreign tobacco products are treated the same as domestic ones (as required by the non-discrimination principle of the WTO regime), a country's tobacco control measures should not be subject to a trade dispute. For example Article 11 of the FCTC requires that warning labels on cigarette packages must be 'no less than 30 per cent of the principal display areas' (WHO 2005a, 10). A government can introduce this provision as long as the legislation does not discriminate between international and domestic cigarette packaging without consequence from trade regimes. Tobacco control measures that exceed the minimum standards set forth by the FCTC, however, may be challenged (and as of early 2011 were being challenged) under both the WTO system and bilateral investment treaties. One WTO dispute involved disclosure of ingredients on cigarette packages, challenged by TTCs under intellectual property protection rules of the TRIPS agreement (Callard et al. 2001). The precedent of a pre-FCTC dispute, in which disclosure of ingredients to government authorities but not to the consumer was a compromise settlement (MacKenzie et al. 2004), was being cited by TTCs as fulfilling the minimum criteria in Article 10 of the FCTC.

In 2010, the TTC Philip Morris challenged Uruguay's decision to require larger warning labels on tobacco packages than the minimum referenced in the FCTC, arguing that under rules set out in a Swiss-Uruguayan investment treaty such warning labels violated its intellectual property rights by reducing the space in which it could feature its brand name and logos (Lencucha 2010).[4] This case has not yet been resolved. The difficulty with disputes involving intellectual property rights, whether under the TRIPS agreement or bilateral or regional 'TRIPS-plus' treaties, is that the specific trade rules covering such protection remain ambiguous and difficult to interpret (McGrady 2004).

[4] Investor-state provisions in bilateral investment and several regional trade treaties, such as the North American Free Trade Agreement, allow private investors to directly sue governments if investors believe they have been deprived of actual capital investment (or potential future earnings based upon that investment) due to changes in government laws or regulations. IPRs are often included within such investor-state provisions.

Alcohol Trade and Health

Concerns are also rising about the impact of numerous WTO agreements on liberalized trade in alcohol and consequent alcohol-related health problems. Below we discuss four pathways linking trade and investment liberalization to alcohol-related chronic diseases: increased availability, affordability and marketing of alcohol; decreased alcohol control policies; domestic health-related economic effects and non-treaty trade in alcohol.

Increase availability, affordability and marketing of alcohol

Production, distribution and marketing of alcohol are becoming increasingly globalized. Most alcoholic beverages are purchased in the country of production (Room and Jernigan 2000), although cross-border trade in spirits (primarily those produced in high-income countries) has become subject to disputes over differential tax regimes (primarily in LMICs), a point addressed later. More importantly, and as with tobacco, international alcohol brands are now being produced industrially in plants owned, co-owned or licensed by multi-national corporations (Jernigan 2000). The penetration of LMIC markets by trans-national alcohol corporations (TACs) has increased the availability, affordability and marketing of alcohol products (Grieshaber-Otto et al. 2000; Jernigan 2009), all of which affect consumption rates.

With other factors held constant, a rise in alcohol prices leads to a reduction in the consumption of alcohol and alcohol-related harms (P. Anderson et al. 2009). Demand for alcohol is relatively inelastic to price, that is, a price increase of *x* per cent will lead to a reduction in consumption that is less than *x* per cent. Increasing prices tend to have a greater long-term than short-term impact; young drinkers and frequent and heavier drinkers, two groups for whom the health risks of consumption are generally greater, are more likely to reduce their consumption than older drinkers and infrequent and lighter drinkers (P. Anderson 2006; P. Anderson et al. 2009).

Greater diversity of alcohol products made available through reduced tariffs on imports can increase overall alcohol consumption as these products can target a variety of tastes and preferences, although, in some cases consumers may simply shift from domestic to foreign products (Gould and Schacter 2002). Also, many of the new foreign beverages contain higher alcohol content than domestic products (Grieshaber-Otto et al. 2000; Room and Jernigan 2000). As alcohol companies 'thirst for new markets' (Jernigan 1997), intensive marketing practices are adopted as a means to increase consumption of alcohol, particularly in LMICs (Grieshaber-Otto et al. 2000; Gould and Schacter 2002). The role of advertising is a critical factor in differentiating between 'globalized' and other types of alcohol (Jernigan 2009). Whereas traditional local alcohol products were marketed based on availability, quality and price, among global alcohol products 'the product is synonymous with its imagery … it represents a culture of its own. In a cash economy, the

product may represent entrée into a world of riches and luxury, suggest sexual or physical prowess or success, or embody an image of heritage, patriotic pride or rebellion' (Jernigan 2000, S471). Alcohol is being marketed through increasingly sophisticated avenues, including direct marketing (for example, podcasting, cell phones), mainstream media, and via sporting and cultural events. Researchers have demonstrated that advertising is associated with alcohol use by youths, specifically with initiation of drinking and hazardous drinking patterns (P. Anderson et al. 2009). Misleading advertising, such as marketing products as containing low alcohol when consumed as a mixed drink or targeting vulnerable groups, has been employed as a means of counteracting consumer preferences for non-alcoholic beverages or drinks with lower alcohol content (Gould and Schacter 2002).

'[T]he World Spirits Alliance', which represents major distillers and suppliers of fine spirits from around the globe, 'described the Doha Round as offering "an excellent opportunity for the international distilled spirits industry to create new opportunities to expand its exports to world markets"', and has identified 'liberalisation of restrictions on services, including distribution and advertising' as one of its top five priorities for the new trade round (Gould 2005, 367). As of early 2011, the EU and the USA were aggressively pursuing unlimited liberalization commitments for alcohol advertising in GATS negotiations.

Constrain alcohol control policies

Trade treaties consider alcohol to be a commercial good to be freely traded like any other good. The health-damaging properties of alcohol have been largely ignored.[5] Domestic alcohol policies must ensure their compliance with conditions set out in trade treaties, which portends a potential reduction in the capacities of nations to implement appropriate alcohol control policies. Many of the policies that can help reduce alcohol-related harm (for example, tariffs, taxes, licensing, labelling, regulation of the size of alcoholic beverage containers, identifying certain brands as 'noxious' or 'injurious', availability of different brands) are considered to be barriers to trade under several WTO agreements (Gould and Schacter 2002).

Reducing the control of state monopolies and enterprises in order to promote competition is a key element of many trade treaties. However, researchers have observed an increase in alcohol consumption and alcohol-related problems following the rollback of alcohol control measures. The Nordic countries are a case in point. Since the early twentieth century, Finland, Norway and Sweden had restrictive alcohol policies, notably restrictions on physical availability of alcohol and high alcohol prices – all with the overarching goal of reducing individual and

[5] 'The health risks of tobacco consumption are well known. Those of alcohol are generally confined to alcoholism, impaired driving, injuries, and foetal alcohol syndrome. But even moderate alcohol use carries some health risk.' Rhem and colleagues (2009) estimate that 3–8 per cent of all global deaths and 4–6 per cent of global disability-adjusted life-years are attributable to alcohol.

social harm from alcohol consumption (Nordlund 2007). Following integration into the European Union (EU) and the European Economic Area (EEA), an 1994 agreement for a single European market (Norway is not a member of the EU, but entered into the EEA), these countries have had to yield to pressure to undertake trade activities that adopt the principles of national treatment or non-discrimination. Alavaikko and Österberg (2000) demonstrated that following Finland's entry into the European Union in 1995, the country's markets opened and the state alcohol monopoly company, Alko, lost its traditional capacity for alcohol decision-making policy. Mäkelä and Österberg (2009) observed that alcohol consumption increased 10 per cent in 2004 and levels have remained steady ever since.

Countries have succeeded in maintaining alcohol control policies when they have been able to demonstrate that the law was protective of the health of the population; exceptions for such a purpose exist in both the GATT and in the GATS. As in the case of tobacco, the least-restrictive trade route must be pursued for health protection purposes (Baumberg and Anderson 2008). Chile, for example, lost its WTO case on a policy that levied higher taxes on more expensive spirits and those with higher alcohol content in 1999 (Gould and Schacter 2002). Chile levied a disproportionately high tax rate on spirits that had alcohol content higher than 40 per cent. It did not invoke public health arguments, instead relying on the argument that policy was non-discriminatory, since it applied to all alcohol products, both domestic and imported. The EU, in this dispute, countered that most varieties of *pisco*, the domestically produced spirit, were required by law to have an alcohol content below 35 per cent, while most imported spirits had alcohol content of 40 per cent or above; the effect was therefore to provide an unfair tax advantage to the domestic product. The WTO agreed, ruling in favour of the EU and noted that 'members of the WTO are free to tax distilled alcoholic beverages on the basis of their alcohol content and price', which would appear to allow for a health argument against high alcohol-content imports. But such a policy would only be permissible 'as long as the tax classification is no applied so as to protect domestic production over imports', meaning that a discriminatory tax on alcohol content, even if designed for public health purposes, could be found in violation of trade treaty obligations (WTO 1999).

However, other countries have won cases on the basis of a health defence. One example is France's *Loi Evin*, implemented to restrict alcohol advertising (Gould 2005; Casswell and Thamarangsi 2009). The European Court hearing this case, which involved intra-European trade rules rather than the WTO regime, found that while these prohibitions conflicted with the European Treaty (Article 59, which stipulates abolishing restrictions on the provisions of services, including advertising), the French regulations were appropriate for protecting public health. European Union law may be more 'health friendly' than WTO trade treaties, but Baumberg and Anderson (2008) argue that more flexibility may exist for policies motivated purely by health interests than is often perceived, and call for countries implementing alcohol-restricting policies to pay closer attention to case law in Europe in order to better understand how to craft alcohol control policies, and how to avoid narrowing their policy space to do so during ongoing trade negotiations.

Domestic health-related economic impacts

It has been argued that economic benefits from foreign investments of alcohol corporations can offset the harm of increased alcohol consumption in developing countries. The benefits include employment and income generation, increased government revenue for governments, a stronger economy through exports and import substitution and the transfer of technology and skills via multi-national corporations (Jernigan 2000; Room and Jernigan 2000). However, while global markets can increase employment and promote the transfer of technological advances from high income to LMICs, global trade tends to benefit rich countries – particularly a few global corporations (Room and Jernigan 2000). Employment benefits tend to depend on the local context and the alcohol product. Trade-related expansion of foreign private distributors and retailers at the expense of local monopolies, for example, can drive out alcohol profits from the local economy (Grieshaber-Otto et al. 2000). Foreign companies may displace local employment, since their breweries and production facilities often require imported technology (Jernigan 2000). Operation of these facilities tends to require fewer highly skilled workers. Companies will often bring in expatriates, reducing employment opportunities for local populations who have traditionally worked in the production and trade of alcohol, such as female heads of households. Local populations may be marginalized from participation in this new industry development and will not reap any benefits in employment or skill development. Foreign corporations can also influence the larger political and economic contexts; as their share of the market increases, so does their power as actors on the national and sub-national scales (Jernigan 2009).

High taxes on alcohol can be a positive public finance instrument with public health benefits. However, in order to collect such revenue, countries need effective control over the alcohol supply, which many developing countries do not have (Room and Jernigan 2000) and which is weakened trade treaty restrictions on differential taxation by alcohol content. Export-oriented policies for alcohol may not be effective in LMICs, since the global trade necessitates high quality beverages that can travel long-distances. Few LMICs are able to produce these or to compete against well-established international brands, tequila and rum being two notable exceptions. In sum, any potential role for global alcohol trade in domestic economic development (with implied trickle-down health benefits) remains ambiguous at best.

Conclusion

This chapter began by stating that global trade, *per se*, is not inimical to health, but then reviewed several aspects of the contemporary, rules-based trade regimes that carry particular health risks. These risks have not gone unnoticed. In the case of tobacco trade, the FCTC – widely regarded as the first modern global public

health law – is in part a response to challenges of a globalized tobacco industry. Its ability to trump trade treaties invoked by TTCs in their pursuit of larger markets is still being tested; international recognition of tobacco's singularly negative effects and vilification of the tobacco industry may assist in strengthening the normative, if not the narrowly legal, force of the FCTC. WTO disputes can only be initiated by member nations. Even when WTO rules are potentially violated, governments may choose not to enter into a dispute urged by multi-national TTCs owing to public or media pressure. However, bilateral investment treaties or investor-state rules, which are increasingly being inserted into regional trade agreements, allow companies to directly sue governments for alleged trade treaty infringements; hence Philip Morris' use of a bilateral investment treaty with Uruguay, rather than the TRIPS agreement of the WTO.

There is no alcohol equivalent to the FCTC, although the WHO recently prepared a draft global strategy to reduce harmful use of alcohol, which included recommendations and proposals for regulating the availability, marketing and pricing of alcohol (WHO 2010e). There is growing support for a Framework Convention on Alcohol Control (FCAC) from diverse actors, including the Indian government, the American Public Health Association, the World Medical Association and the WHO Commission on the Social Determinants of Health (Beaglehole and Bonita 2009; Baumberg 2010). A FCAC would help to demonstrate that alcohol is not an ordinary commodity and help to address global factors influencing its consumption (Baumberg 2010). However even if such a Framework Convention were negotiated, problems arising from its intersection with trade rules (analogous to those outlined for the FCTC) would likely remain. A more effective strategy may be through the use of trade law adopting a health defence, as discussed earlier in the case of France's *Loi Evin*.

It will also be difficult to counteract the food industry, who have been using tactics similar to the tobacco industry (for example, supplying misinformation, hiding negative data) and have been able to argue that there is no 'unhealthy food' and that obesity and associated health problems are due to 'unhealthy diets' and a lack of physical activity (Chopra and Darnton-Hill 2004). While the implementation of an internationally binding instrument may not be feasible, public health experts have advocated a range of other strategies, including the development of international standards for advertising unhealthy food to children, labelling unhealthy food, regulating TFCs by either imposing health conditionalities on FDI or working jointly with TFCs to find a solution, and using price or tax measures to reduce the demand for unhealthy food (Chopra, Galbraith and Darnton-Hill 2002; Hawkes 2004; WHO 2004).

Finally, trade reforms, however modest or sweeping, should be seen as part of a more comprehensive set of reforms of global economic governance such that health, development and social protection were more central to foreign policy decision-making. Our analysis of the three product pathways has demonstrated the reach behind borders of international trade in today's world; unless trade treaties are reformed or negotiated to take greater account of how they enhance health and its determinants, and assure governments the flexibilities to intervene

in markets to correct for the inequalities and environmental externalities that accompany trade and financial flows, we risk facing an increasingly polarized, insecure and, if not singularly unhealthy, then at least unequally healthy world.

Plus ça change, plus c'est la même chose: An Overview of Obstacles and Opportunities to Improve Access to Medicines

Natalia Ovtcharenko, Sarah Bonazza and Jillian Clare Kohler

The tension between the business case for protecting intellectual property rights (IPRs) and ensuring universal access to essential medicines is a long-standing issue in pharmaceutical policy, particularly in relation to the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement. The potential impact of trade on health outcomes is a research area that has gained considerable interest from both policy makers and researchers. As is well known, the TRIPS Agreement demands global minimum standards for the protection of patents and for remedies for the effective enforcement of these IPRs for any country that is a member of the World Trade Organization (WTO).

The purpose of this chapter is to highlight some of the core topics relevant to the access to medicines and patents debate. This includes a brief introduction to the TRIPS Agreement, a discussion of compulsory licensing, and new ways of doing business such as south–south partnerships. We also discuss how the research-based pharmaceutical industry has sought to reframe the intellectual property rights issue by moving the debate away from whether patents should exist to a more narrow focus on the terms of data exclusivity. Recent new models that seek to provide 'middle-paths' between respecting IPRs and protecting public health, such as patent pooling and the Health Innovation Fund, are also highlighted. We conclude with our thoughts on where the debate will move in the years ahead.

Overview of the TRIPS Agreement and Its Impact on Access to Medicines

The TRIPS Agreement was ratified as part of establishing the WTO in 1995. The agreement was initiated by the United States, Japan and the European Union to protect themselves from losses due to infringement of patents in countries not offering enough protection (Haakonsson and Richey 2007). It was intended to create a level playing field of recognized IPRs among all member states to encourage trade and economic growth (Kerry and Lee 2007). The agreement set a minimum level of protection that countries must provide, including a 20-year minimum duration of patents on new products or processes. Patents are not granted globally; therefore, the inventor needs to file a patent individually in every country or region. A WTO member state failing to create this system for IPRs can be challenged through the WTO Dispute Settlement Mechanism. The pressure for the agreement came mainly from developed countries, but there was some incentive for developing countries to sign on as well, in the form of promises from foreign investors that protection of IPRs would increase foreign direct investment, facilitate technology transfers and increase the receiving of concessions in other areas (Haakonsson and Richey 2007).

TRIPS ushered in an enforceable global intellectual property regime with the central player in its creation being the US-based 12-member Intellectual Property Committee (Sell 2003). In *Private Power, Public Law*, Sell (2003) states that 'the TRIPS accord is the social construction of privileged agents whose interests were mediated through the US state' (30). A Common Market for Eastern and Southern Africa (COMESA) multi-country study on trade and public health confirmed that if countries want to attract foreign aid, then TRIPS compliance is an important indicator of their worthiness as recipients (Haakonsson and Richey 2007). In an increasingly global economy, maintaining one's standing as a trading partner committed to IPR protection has taken precedence over access to medicines (Kerry and Lee 2007).

From a legal perspective, the TRIPS Agreement provides some room to manoeuvre because of the imprecision of its language and its relative youth in legal terms. Some terms lack clear definitions, and others are open to a variety of interpretations. While these are subject to certain international interpretative principles, such as the Vienna Convention on the Law of Treaties, a range of other explanations are nevertheless possible. For example, the Agreement recognizes 'the special needs of the least-developed country members in respect of maximum flexibility in the domestic implementation of laws and regulation in order to enable them to create a sound and viable technological base' (WTO 1994). Article 7 of the TRIPS Agreement states that the intellectual property protection, while contributing to technological innovation, should also contribute to 'the transfer and the dissemination of technology, to the mutual advantage of producers and users of technological knowledge' (WTO 1994). Further, it says that this should be 'in a manner conducive to social and economic welfare and to a balance of rights

and obligations' (WTO 1994). Unfortunately, the interpretation through dispute resolution to date on this provision has been paltry.

In 2001, WTO members adopted a special Ministerial Declaration on the TRIPS Agreement and Public Health (hereafter the Doha Declaration) at the WTO Ministerial Conference in Doha. At the conference, trade ministers agreed to undertake a new round of multi-lateral trade negotiations and adopted two declarations. One part of the Doha Declaration was an effort to interpret Article 31(f) of the TRIPS Agreement, which states that compulsory licensing shall be 'predominantly for the supply of the domestic market' (WTO 1994). This provision means that under WTO rules, countries with a public health crisis are able to forgo patent law and issue a compulsory licence to a local manufacturer. The majority of developing countries, which lack the domestic manufacturing capacity or technical expertise to manufacture on-patent pharmaceuticals, derived no benefit from this provision. Thus, the Doha Declaration includes the now well-analysed Paragraph 6, which recognizes the limitations of the terms of compulsory licensing for member countries of the WTO, particularly the least-developed countries that cannot turn to local producers for the manufacture of medicines, and called for an expeditious solution to the problem. The WTO council did not succeed in finding a solution until 30 August 2003. The resulting Paragraph 6 Waiver qualifies all members as importing members (under the conditions laid out by the waiver) but focuses on least-developed countries and notes a number of countries that pledged not to use the provision, including the United States, France, Canada and the United Kingdom.

The August 2003 Decision waives exporting member countries' TRIPS obligations under Article 31(f) and allows them to export generic drugs under compulsory licence to an importing developing country member that lacks manufacturing capacity. It allows any member country to issue a compulsory licence to produce generic drugs for export to least-developed countries that establish that they have insufficient or no manufacturing capacities (Gupta 2010). Medicine production is limited to the amount necessary to meet the needs of the importing country, clearly identified and distinguished by packaging and shaping and or colouring, and importing countries must take measures to prevent parallel importation of products (Cohen-Kohler et al. 2008).

Flexibilities

The inclusion of various flexibilities within TRIPS was meant to ease the impact of increased IPRs on developing countries. Flexibilities included compulsory licensing and a transition period for implementation. Initially all developing countries would have been TRIPS-compliant by 2005 but the deadline was increased to 2016 for least-developed countries (LDCs) at the 2001 Doha Development Round first ministerial meeting (Wilson, Kohler and Ovtcharenko 2012). This has prompted some countries, such as Tanzania, to enter technology transfer agreements in order

to domestically manufacture drugs while there are no patent requirements (Wilson, Kohler and Ovtcharenko 2012).

Tanzania was planning on manufacturing the fixed dose combination drug (FDC) of first line antiretrovirals (ARVs) lamivudine, stavudine and nevirapine (3TC+d4T+NVP) through a technology transfer agreement with the German NGO, Action Medeor. Action Medeor planned to help local manufacturer Tanzanian Pharmaceutical Industries (TPI) update its manufacturing facilities to produce the drugs. However, TPI did not have WHO pre-qualification, which was necessary for donor financing. TPI's production costs were initially high due to limited manufacturing capacity which requires them to import active pharmaceutical ingredients (APIs) and without a donor tender to gain regional markets, TPI likely would have been unable to gain sufficient economies of scale to lower prices. In Tanzania's case the domestic industry, which did not have WHO pre-qualification, was unlikely to be competitive at the domestic and regional level and therefore would be unable to produce affordable ARVs on a large scale (Wilson, Kohler and Ovtcharenko 2012).

Another key flexibility is compulsory licensing, which enables a government (or authorized third parties) to manufacture the drug product without the patent holder's authorization. The authorization for a compulsory licence is not an easy process under TRIPS. It must be considered individually and the scope and duration limited to its authorized purpose. The licence must be non-exclusive, non-assignable and for the supply of the domestic market of the country authorizing such use – which until recently prevented the poorest countries without manufacturing capabilities from making use of this provision, as discussed below. Authorization can be terminated when the circumstances that gave rise to the request are no longer present, and the rights holder must be paid adequate remuneration (Cohen-Kohler et al. 2008). Perhaps the most cumbersome aspect of the process is that efforts to obtain a voluntary licence from the patent holder must be made before a licence is granted, unless in cases of national emergencies, extreme urgency, non-commercial use or anti-competitive remedying. These cases are not always clearly defined in law and can lead to significant delays and frustrations for those seeking a licence.

Even if countries have manufacturing capabilities to make use of compulsory licensing, the political-economic context often prevents its use. By issuing a compulsory license, a country may risk the perception of being lax on IPRs and thereby weaken trade relations or scare off investors (Gupta 2010). The research-based pharmaceutical industry is typically quick to put countries on notice that compulsory licensing could prove to be damaging for trade relations. For example, the industry notes that implementing local manufacturing initiatives under compulsory licences may deter FDI in local manufacturing, as well as R&D investment in neglected diseases that afflict populations of developing countries (Chien 2003; Wilson 2009). This drawback is strengthened by the fact that the United States Trade Representative (USTR) uses its Special 301 Report to notify countries of unsatisfactory IPR provisions and enforcement, a precursor to trade sanctions. Thailand and Brazil were placed on the 'priority watch list' for patent infringement after the two countries implemented compulsory licenses for the ARVs lopinavir/

ritonavir and efavirenz (Wilson 2009). Inclusion in the Special 301 Report occurred despite the fact that Brazil and Thailand were within their legal rights under Article 31 of the TRIPS Agreement and the Doha Declaration on the TRIPS Agreement and Public Health to issue compulsory licences in cases of public health interest (Wilson 2009). These countries are not the only countries that have been targeted by the USTR, which has been using the Special 301 Report as a unilateral tool for strengthening IPRs since the 1990s (Oxfam 2002).

Even if countries decide to ignore potential economic and political threats, they may lack the administrative and human resource capacity to make use of compulsory licensing. Often developing countries have limited personnel in the Ministry of Health overseeing the issue of compliance with IPRs, and even though TRIPS exceptions offer governments the ability to put health before trade objectives, many developing countries and LDCs simply cannot utilize these provisions (Cohen-Kohler 2009). To exploit generic manufacturing fully, both political commitment and administrative capability are required because a country may face pressure, lawsuits and threat of trade sanctions from developed countries (Chien 2003; Wilson 2009).

Despite these obstacles and more, compulsory licensing use is increasing. Malaysia was the first Asian country to implement a compulsory licence after the Doha Declaration in 2003, and Indonesia the second (Gupta 2010). In 2004, compulsory licences for ARVs were issued in Zambia, Mozambique and Zimbabwe and, in 2007, in Thailand and Brazil. The prices of the licensed drugs dropped considerably in all the countries, repeatedly demonstrating the value of compulsory licensing in terms of reducing price barriers to drug access (Gupta 2010). For example, the price for a patented ARV (Stavudine + Didanosine + Nevirapine) fell from USD261.44 to USD45.32 per patient per month after import of generic ARVs (Khor 2009). In Thailand, the cost of efavirenz per patient per month dropped from USD58 to USD7.5 and several other medicine costs were reduced by 67– 98 per cent (Khor 2009). Ecuador granted its first compulsory licence in April 2010 for ritonavir to Eskegroup SA (an Indian generic pharmaceutical producer). The compulsory licence has already yielded savings to the government and a second licence for ritonavir is in the process for another Indian company, Matrix. Ecuador's granting of compulsory licences may cause others in the region to follow suit (Saez 2010).

In February 2004, WTO members began reassessment of the Doha Declaration and the August 2003 Decision, due to a lack of progress in improving access to medicines through TRIPs. The August 2003 Decision waiver was an interim agreement which was made into a permanent decision by the General Council on 6 December 2005. It was to come into force when two-thirds of members accepted the waiver. WTO members gave themselves a deadline of 1 December 2007 to get two-thirds acceptance of the amendment. However, by December only 14 WTO members had accepted the waiver (with 100 acceptances needed for the decision to come into force) so the General Council reset the deadline for acceptance to 31 December 2009, and then 31 December 2011 (Third World Network 2010). The waiver remains operative until the amendment is accepted.

But the decision has led to little substantive change. Administrative procedures such as requiring both the importing and exporting countries to issue compulsory licences, WTO involvement in overseeing of the procedures, and other stipulations contained in the waiver effectively limit its application. As well, WTO members must amend their domestic legislation in order to issue compulsory licences for export. Countries may implement the Decision without first ratifying the 2005 WTO Agreement, or may ratify the amendment previously discussed without implementing the Decision (Ng and Kohler 2008). In addition, many developing countries do not have the necessary administrative infrastructure and know-how to make use of the compulsory licensing provision. As of 2011, only one country, Canada, had used it for two limited shipments of a triple combination ARV medication to Rwanda in 2008 and 2009 – as Kohler et al. (2010) have shown, with high administrative and financial costs for Apotex, the generic company that made use of this provision. The EU, Norway and several other countries have provisions for use of the flexibility, but it has not been utilized (Ng and Kohler 2008). The March 2011 passage of Bill C-393 in Canada showed promise that domestic legislation could be improved to become more commercially viable and less cumbersome to use. Bill C-393 was legislation created to amend Canada's Access to Medicines Regime (CAMR), which is the Canadian government's process to allow compulsory licences to export essential medicines to countries without the capacity to manufacture their own. Bill C-393 contained a 'one-licence solution' that was thought to streamline the licensing process and make CAMR easier to use. However, the bill was stalled in the Senate (Canada's upper house of Parliament) and died when Parliament was dissolved and the 2011 federal election was called ('Children Can't Wait! 2011).

TRIPS-Plus and Data Exclusivity

TRIPS-plus clauses in Free Trade Agreements (FTAs) and other bilateral treaties[1] go beyond the requirements of the original TRIPS Agreement; along with mandating data exclusivity they increase patent protection and restrict parallel importation and compulsory licensing (Voon and Mitchell 2009). Agreements include several standard provisions such as patent extension as compensation for delays in drug registration and patent granting, strengthening IP law enforcement, compulsory licensing and parallel importation restrictions and the patentability of new uses of products (Akaleephan et al. 2009). Article 1 of TRIPS states that 'Members may, but shall not be obliged to, implement in their law more extensive protection than is required by this Agreement, provided that such protection does not contravene the provisions of this Agreement'(WTO 1994). When considering the power relationships between developed and developing countries, it is not surprising

[1] The United States also engages in many bilateral investment treaties, which often have Intellectual Property Sections with TRIPS-Plus provisions, analysed in Drahos 2001b.

that TRIPS-plus clauses consistently make it into the final agreements. Therefore, although these limitations seem to go against the 'spirit' of TRIPS, they do not directly breach it and have therefore been difficult to dispute (Frankel 2009). Many of these FTA policies require amendments of domestic law, which could be interpreted as breaching the TRIPS 'right' to national autonomy in the implementation of a standard (Frankel 2009, 1040). That is to say, when implementing the standards of the TRIPS Agreement, member states have a level of national autonomy which allows them to decide how they will do so (Frankel 2009, 1034).

FTAs are not universally focused on IPR, which can end up being a bargaining tool for other provisions. For developing countries, the agriculture and textile sections of the FTAs are of great economic importance. In the case of the US-Chile FTA, implemented in 2004, Chile gained significant benefits from the elimination of tariffs for consumer and industrial products as well as, in time, all farm products (Roffe 2004). There is also the threat that other agreements may be renewed if certain provisions are not agreed upon (Roffe and Spennemann 2006). Since FTA negotiations are not transparent, it is difficult to say how IPR provisions were negotiated, but it is unlikely that the agreement would have been completed if there was strong disagreement on the IPR section.

The Free Trade Area of the Americas (FTAA), which was to cover 34 countries in the Western Hemisphere, is an example of how little room there is for negotiation. The FTAA fell through in 2005 in part due to disagreements on IPRs (Associated Press 2005; Canadian Press 2005). There was strong movement from civil society for the rejection of TRIPS-plus clauses, which was also a negotiating point for the US and Brazil (Associated Press 2005; Consumer Project on Technology 2011). While the agreement was still in negotiations, Vivas-Eugui (2003) analysed the TRIPS-plus policies in the drafts and found that all the standard clauses mentioned earlier were being considered. Since a final draft was never completed, we cannot predict how far the agreement might have gone.

The universal strengthening and harmonization of IPRs may be a core American foreign policy. The US Trade Act of 2002 explicitly outlines its IPR goals. Amongst its objectives are to '[ensure] accelerated and full implementation of the Agreement on Trade-Related Aspects of Intellectual Property Rights', ensuring that its provisions 'reflect a standard of protection similar to that found in United States law', and 'preventing … discrimination with respect to the availability, acquisition, … use, and enforcement of intellectual property rights' (Public Law 2002, 107–210). This amendment to the Trade Act fortified the US shift to the bilateral forum for the negotiation of IPRs. During the Uruguay Round, it was implicit in negotiations that the TRIPS Agreement would lead to less bilateral negotiations on IPRs, particularly important to developing countries who had been feeling the pressure of the Special 301 Reports (Remarks of Mr Emory Simon, as cited in Drahos 2003, 6). Instead there has been a trend of increasing bilateral

agreements since 1995.[2] The shifting to the bilateral forum has been interpreted in many ways,[3] but bringing developing countries up to a US standard that had not been achieved in multi-lateral negotiations is clearly a priority.

Data Exclusivity

Data exclusivity protects patented and non-patented inventions by blocking access to clinical trial data within a certain time frame and therefore preventing generic production. During the exclusivity period, companies are not able to access clinical trial data and cannot legally manufacture the drug unless they repeat the trials themselves, a task which is not only prohibitively expensive, but also raises serious ethical questions. The relevant clause in the TRIPS Agreement is Article 39.3 which states:

> Members, when requiring, as a condition of approving the marketing of pharmaceutical or of agricultural chemical products which utilize new chemical entities, the submission of undisclosed test or other data, the origination of which involves a considerable effort, shall protect such data against unfair commercial use. In addition, Members shall protect such data against disclosure, except where necessary to protect the public or unless steps are taken to ensure that the data are protected against unfair commercial use.[4]

The debate on data exclusivity provisions is unsettled. Carlos Correa points out that the TRIPS Agreement is vague on five points in terms of data protection. Protection

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[2] See for example Vivas-Eugui (2003, 5).

[3] David Vivas-Eugui notes that using multiple fora makes it difficult for developing countries to protect their interests (Vivas-Eugui 2003). Okediji gives two possibilities, the use of forum shifting to achieve goals through the use of multiple strategies and that TRIPS simply set a new floor from which to build bilateral agreements (Okediji 2004). Peter Drahos believes that bilateral agreements are used by the US due to diminishing influence in the TRIPS Council which is more favourable to developing country interests (Drahos 2003, 9). He also notes that TRIPS-based negotiations are much more transparent than bilateral negotiations. Susan Scafidi points out that data exclusivity provisions in particular have not been discussed in the TRIPS Council, only in bilateral negotiations (Scafidi 2004, 343–4).

[4] Defining 'unfair commercial use' and the context in which it applies is a critical point in the data exclusivity argument, but analysis of it is beyond the scope of this chapter. The primary question stems from whether 'unfair commercial use' falls under 'unfair competition' and therefore Article 10*bis* of the Paris Convention for the Protection of Industrial Property. The connection between Article 39.3 and 10*bis* is analysed in Correa (2002), Reichman (2004) and Meitinger (2005). An EU Assessment of data protection can be found in EU (2001, 19), it asserts that the 'unfair commercial use' cannot be considered under the laws of 'unfair competition'.

is only given if the country requires the submission of test data for marketing approval. Therefore, if data are submitted voluntarily they do not require protection and required submission is at the discretion of the member state. The protected data include safety and efficacy test data which pertain to health as well as 'other' data. Different countries may have differing requirements for what data need to be submitted. If extra data are submitted, they should not be covered by exclusivity. A crucial point is that TRIPS only requires protection for previously undisclosed data, so anything that has been previously made public (that is, in a journal) is not subject to protection. This same point can be applied to the requirement that only 'new' chemical entities get protection. 'New' is not defined and it is unclear whether it means new to the world or to the member state, or whether new uses get protection. There is a broad range of interpretation in this requirement that can lead to high protection. Finally, TRIPS requires protection for products that require 'considerable effort' to develop. 'Considerable' is never defined and it is unclear what type of effort it implies (2002, 14–19).

The 2006 WHO Report on Public Health, Innovation and Intellectual Property Rights (hereafter WHO Report) analyses the relationship between public health, innovation and intellectual property as a basis for future WHO resolutions. One of its overall findings was that IPRs are one incentive within the public health sphere and are not necessarily effective incentives in areas like vaccines, diagnostics and neglected diseases due to a small market (Commission on Public Health, Innovation, and Intellectual Property Rights n.d.). Therefore there is a need for different incentives for innovation in these areas. Their final proposals encouraged the strengthening of R&D capacity in developing countries as well as the use of TRIPS flexibilities and innovating financing mechanisms such as patent pools (WHO 2006a). TRIPS Article 39.3 calls for 'protection of undisclosed data' and according to the WHO Report, 'data protection' is distinctly different from 'data exclusivity' (124–5). This is because TRIPS only calls for protection against 'unfair commercial use', it does not require any specific period of exclusivity. The WHO Report even asserts that data exclusivity is not provided in order to protect from 'unfair commercial use' but to 'incentivize' research and development for pharmaceutical companies (WHO 2006a).

On the other hand, the pharmaceutical industry (and developed country governments) maintain that exclusivity is the only way to protect the clinical trial investment of companies. The International Federation of Pharmaceutical Manufacturers and Associations (IFPMA) treats data exclusivity as positive law-making, stating that 'arguably, if a country had no data protection law at all, then the data submitted as part of a registrational package should never be permitted to be referred to by a generic company' (IFPMA 2000, 2). Exclusivity is also seen as the only possible interpretation by the USTR (as cited in EU 2001, 19) and the EU (2001, 19). Both the IFPMA and EU reference the Brussels 1990 Draft of the TRIPS Agreement to demonstrate that exclusivity was the original aim of Article 39.3; however, it is significant that the requirement was eventually removed (IFPMA 2000; EU 2001).

When data exclusivity is granted independent of patenting or where exclusivity extends beyond patent protection, it can restrict generic production. Data exclusivity effectively vitiates the benefits of compulsory licensing, because a compulsory licence only overrides patents. If a licence is granted and the drug is still under exclusivity in the country where it is to be produced, the generic company cannot manufacture the drug (Médecins sans Frontières 2004). Data exclusivity confers three more advantages: (1) there is no provision for compulsory licences on data exclusivity (Clift 2007); (2) it has no waiting period: patents must be applied for and approved while data exclusivity is immediately granted (Clift 2007); and (3) although disclosure of data is allowed when necessary to 'protect the public', this condition is subject to a 'necessity test' where there is a very strong burden of proof on the state using the provision (Correa 2002, 21).

Data exclusivity provisions vary from country to country. The United States provided a five-year period of data exclusivity for new inventions in the 1984 Hatch-Waxman Act, with the Biologics Price Competition and Innovation Act of 2009 extending exclusivity to 12 years for biologics. Bilateral agreements between the US and European Free Trade Association (EFTA) with developing countries have included data exclusivity policies in the TRIPS-plus provisions. The European Union (EU), although it has data exclusivity protection within its own regions, did not include data exclusivity protection in its FTAs with Chile[5] and Mexico.[6] The more recent EU–South Korea FTA (2010) did require 'at least five years' of data protection on pharmaceuticals. Notably, the EU is currently in negotiations for more FTAs. There is significant concern from civil society that the final agreement on the EU–India FTA will include data exclusivity provisions that will be damaging to access to medicines in India ('India', 2011). Except for the US–Jordan FTA, US FTAs mandate exclusivity for five years for pharmaceutical products and 10 years for agricultural products (Roffe and Spennemann 2006).

The phrasing of the data exclusivity clause itself is subject to more than one interpretation in many of the FTAs. Rosario Cartagena and Amir Attaran note that while Peru's IPR legislation is phrased similarly to its FTA, Colombia, Chile and El Salvador state in their laws that data exclusivity extends for a 'period of five years' instead of 'at least five years' as the FTA specifies (2009, 286–91). If this legislative trend continues with future FTAs, it may limit the IP ratchet and act as a ceiling for data exclusivity and not a floor, leaving little room for extension of exclusivity beyond five years (Cartagena and Attaran 2009, 291). Even so, a universal five-year standard would still be going beyond the legislative flexibility in TRIPS.

While TRIPS set the minimum standards for patent protection, the increasing number of FTAs may lead to an even higher global standard. The shifting of international norms in IPR protection could happen through several pathways, but the most relevant in terms of TRIPS would be the use of Article 4, Most Favoured

[5] Available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:352:0003:1439:EN:PDF.

[6] Available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:276:0045:0061:EN:PDF.

Nation Treatment (MFN). This clause requires that any advantages given to a member state through an international agreement must also be granted to other member states. Therefore any data exclusivity allowances made in US FTAs would have to be extended to all others, most importantly to the EU (Drahos 2001a). This process could have happened without the MFN clause, through the gradual increase of international agreements with data exclusivity provisions, but the MFN clause establishes data exclusivity as a minimum standard much sooner (Drahos 2001a). None of the US FTAs contains a MFN exemption; therefore, as more of these agreements are made, there is an increasing concern of the long-term consequences for access to affordable medicines.

Other Strategies to Improve Drug Access

Regional manufacturing and south–south partnerships

While regional manufacturing as a possible strategy to improve drug access is far from novel, the fact that it persists as a potential solution to improving access to medicines suggests that there may be some value in focusing more on regional manufacturing projects. Regional manufacturing may lead to more access to medicines, as prices would be reduced based on pooled resources and large-scale efficiencies. The African Union (2008) has focused on regional manufacturing particularly for ARVs. Pursuant to the Assembly Decision 55 during the Abuja Summit in 2005, the African Union mandated the development of a Pharmaceutical Manufacturing Plan for Africa with the assistance of development partners (African Union 2008). This plan aims to utilize the 2016 transition period of LDCs under the TRIPS Agreement to develop a variety of drug manufacturing initiatives (Wilson 2009). While the economic rationale for regional manufacturing is strong, the political will to make it happen is not always present. This is a compelling point given that regional manufacturing remains elusive and getting political agreement and buy-in on it is likely a priority area that has not been adequately addressed.

Intensification of south–south partnership of various forms may represent a more realistic near-term option for expanding access to medicines. Partnerships addressing the building and output of malaria, TB and ARV drug plants are currently operative in Africa between country governments (that is, Mozambique–Zimbabwe) or generic drug companies (Dionisio et al. 2008). They fall into the African Union and the Economic Community of West African States (ECOWAS) self-sufficiency plans, and add to expanding examples of country-owned drug plants in other African countries (Congo, Tanzania) (Dionisio et al. 2008). Also, Brazil, India and China have increased their trade and development assistance to other developing nations (Dionisio et al. 2008), demonstrating a critical shift in power relations among states. The threat of a shift in the power and as a result the structure of pharmaceutical-manufacturing alliances, along with the threat of

bad public relations may very well encourage the research-based pharmaceutical companies to become more flexible in how they do business. For example, Bristol-Myers Squibb recently issued a voluntary licence agreement with Aspen Pharmacare to manufacture and sell the protease inhibitor atazanavir in sub-Saharan Africa and India, royalty free (Dionisio et al. 2008). Too much optimism for a 'kinder, gentler' research-based industry, however, is probably naïve.

Patent Pooling

One of the 'middle-paths' being proposed to improve drug access globally is the concept of a patent pool. The Medicines Patent Pool (MPP) recently started by UNITAID[7] was first proposed to UNITAID and the French Ministry of Foreign Affairs in a paper by Médecins sans Frontières (Childs 2010). It was accepted by the UNITAID Board in May 2008 and a request for an implementation plan came in May 2009 (UNITAID 2009). The MPP was officially established as a separate entity from UNITAID in July 2010, with start-up funding of USD4 million and a five-year memorandum of understanding with UNITAID.

The pool functions through the donations of patents by pharmaceutical companies for ARVs. The patents are then licensed out with one overarching licence to generic companies, a 'one-stop shop', and royalties are paid back to the originator companies. This system drives down cost through several mechanisms. Most antiretrovirals (ARVs) are covered by multiple patents which lead to increased transaction costs during licensing; having one licence for all the products will cut costs significantly (Barpujari 2010). And since multiple generic producers will have access to the pool, prices will be driven down by competition (UNITAID 2009).

Historically, patent pools have been criticized for being anti-competitive because patents were pooled between a limited number of companies, but the adoption of an open licensing approach addresses this issue. The pool does not limit who can apply for a licence: generic manufacturers, drug development partnerships and other entities can qualify. In addition, by increasing access to patents the MPP aims to promote innovation for FDCs, paediatric formulations and heat-stable ARVs (UNITAID 2009). The MPP is currently working towards a specific target of having all the patents for 19 essential ARVs, which are held by Abbott, Boehringer Ingelheim, Bristol-Myers Squibb, Gilead, Merck, Roche, Tibotec (a Johnson & Johnson subsidiary), Johnson & Johnson and Viiv (GlaxoSmithKline and Pfizer).

One of the MPP's core principles is voluntary donation of patents. In theory, this could lead to donation of a small number of patents, irrelevant patents or no patents at all. To minimize this risk, UNITAID has sought input from the research-based pharmaceutical industry (UNITAID 2009). Responses from industry on this concept have been mixed. Gilead has been generally supportive and was specifically optimistic about the innovation opportunities for FDCs, paediatric and heat-stable

[7] UNITAID (http://www.unitaid.eu) is an international drug purchase facility supported (as of mid 2011) by 29 countries and the Bill & Melinda Gates Foundation.

formulations (Alton 2009). Their concerns included how much control the patent holder would have over licensing negotiations and IP management post-donation and the geographic scope of the model. Gilead, like many other companies, were concerned about extending the patent pool model to middle-income countries (that is, Brazil, India) which have rapidly developing pharmaceutical industries and growing markets. Merck felt that while it might promote innovation, the pool would not solve the issue of access as there are barriers beyond price (Merck 2009). Boehringer Ingelheim was in negotiations, but in its statement was not convinced that the MPP was better than their own non-assert policies which waive patent rights for its agreement partners ('Access to HIV Medication' 2009). Most opposed were GlaxoSmithKline and Viiv which felt that their voluntary licensing policies already fulfilled the role of the MPP making it unnecessary (Jack 2010). The MPP Director at the time, Ellen't Hoen, has noted several key incentives for donating to the patent pool (Akselrod 2009). The MPP could reduce the incidence of compulsory licensing, and it rewards companies for donating patents through royalties. Its operation within the IP framework while promoting collaboration and innovation makes it attractive both to the private pharmaceutical industry and public health driven organizations.

The MPP does not allow for patent holder management of intellectual property after it has been licensed. It will issue licences with standardized key terms and conditions, the geographic scope of which includes middle-income countries (UNITAID 2009); these countries perform the bulk of generic production. The pool can also be considered more effective than individual company initiatives as it is a 'one-stop shop' for patents. The MPP is not just increasing access through the licensing of existing drugs; it also promotes R&D collaboration, as drug developers are encouraged to obtain licences to develop new FDCs and paediatric formulations. This pool facilitates this by drastically reducing transaction costs, eliminating the need to negotiate multiple licences. In addition, instead of driving down ARV costs through individual company negotiations, the MPP allows costs to be controlled by the market due to multiple companies manufacturing the same drug.

Since the MPP was only officially established in July 2010, it is too early at this writing (mid-2011) to assess its effectiveness. To date, its main focus has been to begin the process of patent donation. On September 30, 2010, the US National Institutes of Health (NIH) announced that it would donate the first patent to the MPP (Médecins sans Frontières 2010b). The patent was related to the protease inhibitor and third line treatment darunavir (Médecins sans Frontières 2010b). The NIH set an example by making the licence apply to all low- and middle-income countries and making it royalty free. Although this was an excellent first step, the patent donated is not sufficient to permit generic production of the drug and patents are still needed from Tibotec (a subsidiary of Johnson & Johnson.)

The MPP is not without its critics. Some groups have pointed out that it could be used by research-based pharmaceutical companies as a justification for not allowing compulsory licenses or the use of TRIPS flexibilities. Importantly, generic companies will be able to charge royalties in LDCs, which do not need to comply with TRIPS until 2016 and will therefore be paying higher prices than necessary. A

final key issue is transparency: there is no provision for transparency in negotiations and there is also no time limit, which could give originator companies the ability to significantly slow down the process (Santhosh 2009).

Prize funds to encourage research and development for neglected and most neglected diseases

Numerous prize models are being proposed or considered to improve access to medicines and ensure that the research-based pharmaceutical industry has incentives to pursue research in areas where health needs are greatest. US Senator Bernard Sanders (independent member) introduced a bill creating the Medicine Innovation Prize Fund (MIPF) to the Senate in 2005 and a revised version of the bill in 2007. It is based on de-linking the cost of R&D from the price of the drug by creating an annual prize fund that would remunerate drug developers. It proposed that patents would be used to establish entitlement to a payment from the prize fund, but would not establish market exclusivity (GHTC n.d.). Prize funds would refashion poorly designed economic incentive of the patent monopoly, which encourages 'me too' drug development and excessive investments in wasteful projects. It would allow the copying of technologies at a zero cost, eliminating the dead weight cost of prices above marginal cost (Love and Hubbard 2009). The funding for the MIPF would be from a percentage of the GDP and all countries would be urged to join the fund (Love and Hubbard 2009).

Risks with regards to prize funds include insufficient or exceeding payments and product withdrawal from market after rewarding due to adverse effect. Another issue is that some companies do not internally see themselves as being about innovation primarily. They are strong on the marketing of products developed by others (Love 2010). The idea is also criticized for not encouraging sufficient openness or sharing of information. 'Open source' dividends could be used to counter the lack of openness (Love and Hubbard 2009).

Another high profile prize proposal is the Health Impact Fund (HIF). The HIF would require that governments and other donors fund a pool of money that can be used for payments every year to firms with patented pharmaceutical products, which they would agree to sell at an administratively determined low price (Hollis 2008). The amount paid to patent holders would be based on health impact achieved because of the product compared with previous state of the art treatment, as measured using the metric of Quality-Adjusted Life Years (QALYs). The Independent Assessment Committee (IAC) would have to examine evidence presented by patent holders, other independent evidence from governments, and evidence from its own investigators. Its purpose would be to create incentive to develop new medicines with large measurable health impacts and enable access at low prices. It would empower innovators to use their private info to determine investments and is optional. Ideally, the HIF would pay out over a period of years, but with no patent buyout. HIF would determine a price at approximately the variable cost of manufacturing, so patentee would earn profits from payments

made by HIF not consumers. The patentee would retain all IP rights, but gives up freedom to charge a monopoly price (Hollis 2008).

For the HIF to become a reality, governments, supported by their citizens and with pharmaceutical firm collaboration, must make conditional commitments to support HIF (for example, 0.03 per cent of gross national income). Their commitments would become binding once a certain threshold is reached (Banerjee et al. 2010). If adequately funded, the HIF would serve as a complement to the patent regime by alleviating its deficiencies. In particular, the HIF would generate a stream of pharmaceutical innovations that would be cheaply available to all and would end the systemic research neglect of diseases concentrated among the poor (Pogge 2010).

Key criticisms of the HIF include lack of clarity with respect to methods of funding to obtain sufficient resources and the fact that companies will be unable to predict in advance the amount of their reward. The funds available for the developer of one drug would be necessarily dependent on the therapeutic effects of other drugs in the system, since all new drugs would be competing for the limited funding available (Hollis 2008). The large number of considerations for the payout for companies may limit their participation and the HIF could compete with the generic sector. It would do so by reducing the number of generic products, shrinking the potential generic markets and reducing economies of scale (Love 2008). The HIF could potentially be gamed by the pharmaceutical companies, which could attempt to increase estimates of health impact or seeking to influence IAC members (Hollis 2008).

Looking ahead

Unequal global access to essential medicines remains. While there is little doubt that in the past decade, the focus on increasing funding for medicines has certainly helped make gains, the global situation remains unsatisfactory. For example, even though the number of people being treated with ARVs increased by 30 per cent from 2008 to 2009 alone, the treatment gap must now be considered through new parameters as the WHO has revised treatment guidelines to start earlier (UNAIDS 2010). In 2009, 37 per cent of people eligible for treatment in Africa had access to ARVs and 42 per cent in Central and South America. Gaps are still present with access to treatment for children, 28 per cent versus 37 per cent for adults (ibid, 96–9). Another significant area for concern is the access for pregnant women. Although mother to child transmission services have improved, only 15 per cent of women with HIV status identified during maternal health services are given treatment for themselves (ibid, 96–9).

One of the core debates related to access to medicines for well over the past decade has been how IPRs either help or hinder drug access. This did lead to some concessions as discussed including the Doha Declaration of 2001 and the 2003 Decision. But even when there are gains made in international law, political and economic realities can override them. We have seen this happen for many countries

in relation to TRIPS-plus provisions and the growing focus of the research-based industry on data exclusivity provisions that are tighter and hence limit the threat of generic competition.

In recent years, efforts have been made to move the drug access debate towards discussion that may lead to outcomes that satisfy public health and commercial interests. Creativity abounds, and we are witnessing a veritable industry of models that are seeking to reconcile the tension between the business case for patent protection and public health needs. We have new initiatives such as UNITAID's proposed patent pooling, as well as prize funds such as the HIF that are far from perfect, but set the policy dialogue in a desirable direction – towards getting results that will lead to better drug access and to try to ensure that the research-based industry will work cooperatively and sincerely in these efforts.

Global Health and the Human Security Agenda

Colleen O'Manique

> The notion of human security is based on the premise that the individual human being is the only irreducible focus for discourse on security. The claims of all other referents (the group, the community, the state, the region, and the globe) derive from the sovereignty of the human individual and the individual's right to dignity in her or his life. In ethical terms, the security claims of other referents, including the state, draw whatever value they have from the claim that they address the needs and aspirations of the individuals who make them up. (McFarlane and Khong 2006, 2)

Introduction

The concept of human security gained prominence in the 1990s amid some optimism that it might shape a new world order in which 'freedom from want' and 'freedom from fear'[1] would eclipse the dominant state-centric vision of security focused on the sovereign nation-state and its national interest. Human security has since evolved as a conceptual framework for understanding more complex threats to humans in a rapidly globalizing world. For proponents of the human security paradigm, elevating global health to the status of a human security issue has offered the possibility that a deeper understanding of our mutual vulnerability

[1] 'Freedom from want' was enshrined in the Universal Declaration of Human Rights in 1948, and is understood broadly to mean freedom of deprivation from basic human needs. The specifics are codified in Article 25 of the UDHR: 'Everyone has the right to a standard of living adequate for the health and well-being of his family [sic], including food, clothing, housing, and medical care, and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age, or lack of livelihood in circumstances beyond his control.' See: http://www.un.org/en/documents/udhr/index.shtml#a25.

to global health threats might strengthen commitment to the right to health and to humanity's collective well-being. Less optimistic observers of the evolving relationship between health and security have observed a dominant focus on a small number of virulent pathogens criss-crossing national borders: pathogens that pose a potential emergency to particular (and largely) western, industrialized nation-states and their economic and geopolitical interests (Ingram 2009; O'Manique and Fourie 2010; Brown 2011). As health and disease have entered the lexicon of globalization more attention is being paid to health as an important foreign policy issue, but with formal inter-state and multi-lateral strategies operating in the context of a world deeply unequal and divided (Ingram 2009, 2085). Competing and overlapping conceptions of (in)security are reflected in contemporary practices of global health governance (see Chapter 11), with significant tension between the conception of health as a human security issue linked to a broader analysis of the ideological and structural forces shaping both the governance of global health and the conditions that shape human health, and the more hegemonic view of health as a national security issue in which our increasingly globalized world is producing new pathogens that threaten particular interests of nation-states.

While every country in the world has ratified at least one human rights treaty that addresses the right to health and a number of rights related to the conditions necessary for human health (WHO 2011) the exercise of that right remains elusive for hundreds of millions of people (Chapman, this volume). The emergent global health security agenda has been marked by a pre-occupation with the link between disease and national security, this, part and parcel of post-Cold War attention to non-military threats to peace and state stability. New pathogenic threats to populations have joined terrorism, environmental catastrophe, 'natural' disasters and the current global financial crisis in contributing to the normalization of a culture of fear and insecurity. Suddenly we believe, we are all vulnerable. Appeals to the dangers that specific pathogens pose for the national interest are in tension with appeals that point to the implications of broader global health threats for all of humanity – the chronic and non-communicable diseases of the global south, the erosion of the social determinants of health, the deepening of market relations in the provision of basic health services – and the need for cooperation and truly multi-lateral approaches to human health (O'Manique and Fourie 2010, 248).

This chapter focuses on how global health has evolved as a security issue and some of the ways in which global health policies have been shaped by security concerns. I argue that while a human security framework offers a holistic and critical lens through which to understand current threats to human health, the dominant policy responses to health security have undermined the human security threshold of improved health conditions for all people (MacLean, Black and Shaw 2006). As Tim Brown (2011) argues, with humanity's increased vulnerability to health threats that have no borders, 'the stated desire to achieve global health security appears to be skewed in favor of the national security concerns of powerful western nations' (324).

The chapter begins with a brief overview of the contemporary evolution of competing, and sometimes overlapping understandings of security – human,

national and global – that shape the context within which health has become securitized. It moves on to sketch the various ways that health has been conceptualized as a security issue within the evolving architecture of global health governance, and uses policy responses to HIV/AIDS and contemporary influenza pandemics to illustrate how dominant understandings of global health security have been a shaping force for those policy responses. The next section raises concerns about the unfolding of contemporary practices to secure health: specifically, a shift away from a focus on the health conditions responsible for the highest levels of mortality, morbidity and human suffering in the knowledge, interventions and practices to 'secure' health. The conclusion identifies some of the silences and omissions that characterize the contemporary global health and security agenda.

Competing Conceptions of Security

Security is a contested term, its meaning very much dependent on the understanding of the subject or object to be secured. Realist and neo-realist theoretical perspectives have historically dominated the field of security studies, and their key assumptions have framed security's definition. For realists, humans tend towards the atomized, rational and competitive (rather than the social and altruistic) and come together in groups out of necessity, given the need for some level of cooperation for human survival. To this end, the most important aggregate of individuals that has historically evolved to guarantee the security of the human person is the nation-state, and nationalism is the most important source of social cohesion (Wohlforth 2010, 9–10). As well, according to realists, nation-states (both the subject and object of security) exist in a world that is largely anarchic, which renders their security problematic. Because humans are largely driven by narrow self-interest, so too is the sovereign state and it follows that politics, by its very nature, is conflictual. As Wohlforth puts it: 'The key to politics in any area is the interaction between social and material power, an interaction that unfolds in the shadow of the potential use of material power to coerce' (10).

In a world characterized largely by anarchy, national security is primarily concerned with the survival of the sovereign state, as opposed to the individual security of its citizens, or the security of humans outside state borders. But while security is about state security, the intensification of globalization has necessitated greater levels of inter-state cooperation to mitigate new global threats, whether imagined or real.

Since the end of the Cold War, the scholarly hegemony of realist theories has been challenged on a number of levels. One of the main criticisms of political realism is its adherence to the centrality of the state in an increasingly globalized world in which borders are increasingly porous and immaterial, where extraterritorial obligations have been extended, and in which the activities in one state can have profound consequences for the security of people on the other side of the planet.

Global economic integration, terrorism, more virulent pandemics and climate change, have co-evolved with a more complex regime of global governance within which increasing tensions arise between and among sovereign states. While those in positions of political power crafting security policies tend to be realists, and politics is a game of *realpolitik* now more than ever, the material and ideological context has shifted, and so too have the strategies. From the perspective of the advanced industrial countries, national security depends on the global expansion of western liberal values, and cooperative and 'mutually beneficial' forms of global governance that will address fundamental issues of 'mutual' concern and vulnerability. We see this, for example, reflected in the convergence in contemporary security discourses of development of both 'soft' and 'hard' security, a trend signalled by Mark Duffield in 2001 (Duffield 2001). This is apparent, for example, in a recent statement by US President Obama:

> Our armed forces will always be a cornerstone of our security, but they must be complemented. Our security also depends upon diplomats who can act in every corner of the world, from grand capitals to dangerous outposts; development experts who can strengthen governance and support human dignity; and intelligence and law enforcement that can unravel plots, strengthen justice systems, and work seamlessly with other countries. (Obama 2010, ii)

A growing number of critical analysts of security both within and outside the academy (constructivists, feminists, critical theorists), although quite disparate in their approaches, share a basic understanding that what constitutes national security for any given state is subjective; it is whatever those holding power deem it to be – and, further, that it is possible to imagine a different post-Westphalian future. Critical security studies analyse the subjective nature of state security, focusing on questions of what is being secured, and for whose interests; and who is included and excluded from the realm of security (Mutimer 2010). Given that the security of all humans is deeply interconnected, it must apply to the basic security of all people. As Tickner has argued (2001, 42) the purpose of national security has rarely been to make all citizens secure, but instead to maintain the power of ruling elites, and militarization itself has become one of the greatest threats to human security, particularly of women and children. We are well aware of the human costs of national strategies to secure capital, energy, water and food, which transcend borders and can undermine the foundations of the health of distant others. While the concept of human security emerged as a critique of the hegemonic security discourse, there are many instances of its use to justify national foreign policy objectives. We see this reflected in the securitization of health.

The Shifting Discourse of Human Security

The epistemic shift in the security discourse within multi-lateral governing bodies toward human security is generally dated from the United Nations Development Programme's (UNDP) 1994 annual Human Development Report, *New Dimensions of Human Security*, which focused on civilians living in conditions of poverty and marginalization. In the report the hegemonic conception of security as security of national territory from external aggression, protection of national interest in foreign policy and global security from nuclear threat was explicitly critiqued as too narrow. The report posited that human beings, not states, should be the subjects of security. It followed that genuine security of humans depended upon safety from systemic threats of physical and emotional fear, repression, violence, poverty, hunger and disease, and furthermore, that threats to security were cultural, economic and environmental as well as military in origin (UNDP 1994). Human security was largely consistent with the emergent sustainable development and human rights perspectives of the times. New global networks and allegiances that transcended the borders of nation-states advanced the understanding that national interest was inimical to human security. Throughout the 1990s the promise of a post-territorial politics emerged within the academy, civil society organizations and peoples' movements, and some progressive pockets within the UN system. Global civil society organizations challenged the Westphalian notion of state sovereignty and the growing corporatization of the state under the neo-liberal project of the past three decades: prominent among them have been People's Health Movement, Via Campesina, The World Social Forum,[2] and a range of indigenous, feminist and human rights movements and networks that continue to evolve. According to Brodie: '[T]the new common sense of who we are is increasingly visible in the explosion of civil society actors that take a borderless world as their first point of reference as well as in contemporary discourses around universal human rights and the emerging human security agenda' (Brodie 2003, 59).

Global corporate and financial sectors, in alliance with the international financial institutions (IFIs), have also challenged the sovereignty of the nation-state, but with a different objective in mind: to secure the rights of capital against the human security and human rights claims of nation-states and global civil society movements (Bakker and Gill 2003; Harvey 2005a; Brodie 2007). Global governance has become a complex site of networks, alliances and allegiances amongst states, regional governing bodies (such as the G8 and G20), IFIs and multi-lateral organizations, global corporations and private individuals who command vast amounts of wealth and political power. Within this environment, evidence continues to mount that key political, economic and security interests

[2] The growth and reach of trans-national civil society organizations, networks and movements has been facilitated by the expanding reach of information technologies. The People's Health Movement (www.phmovement.org/), Via Campesina (http://viacampesina.org/en/) and the World Social Forum (http://fsm2011.org/en) all share an alternative vision of globalization broadly compatible with the concept of human security.

have converged to strengthen the security of capital, at the cost of increased human insecurity (Bakker and Gill 2003; Brodie 2003; 2007). Nation-states are increasingly limited in their capacity to intervene in the governance of their economies and their social sectors to protect the basic human rights of their citizens. States Brodie (2003), 'neoliberal globalization simultaneously maximizes the need for social intervention in the name of human security, while at the same time minimizes the political spaces and strategic instruments to achieve this public good'(60).

In this ideological and material context, a new health security architecture is unfolding. Lakoff and Collier identify an intensification of concern for biosecurity; referring to the new biosecurity as not only the practices associated with national security, but also the '… various technical and political interventions and efforts ("the forms of expertise and the knowledge practices") to "secure health" that have been formulated in response to new or newly perceived pathogenic threats' (2008, 8). They identify four overlapping domains of biosecurity: emerging infectious disease, bioterrorism, the cutting-edge life sciences and food safety. For Lakoff (2008) the emphasis of biosecurity intervention is emergency preparedness for diseases with the potential to threaten 'the critical systems that underpin social and economic life' (38). The emphasis on biosecurity has deflected political attention from other critical global health challenges, eclipsing the understanding of human health as fundamentally dependent upon the sound governance of the global life economy and people's access to the basic constituents of health. The overarching concern with regard to 'securing health' has tilted toward securing the conditions for continued growth and capital accumulation.

Governance, Security and Health

Hence, we cannot separate the norms, rules and institutions through which global health is governed from the broader neo-liberal project of the past three decades. The global commitment to Primary Health Care (PHC) that emerged in the early 1970s to address the serious shortcomings of the vertical health approach that focused on technical interventions, urban hospital-based treatment, and left largely unaddressed the major determinants of poor health (Cueto 2004, 1864) exists today as little more than rhetoric. The 1978 Alma Ata Declaration codified that global commitment under the aegis of the WHO and UNICEF for an inter-sectoral and inter-disciplinary approach to health governance that included a focus on enhancing the social determinants of health and linking health with development. Criticized as being too idealistic, PHC quickly evolved into Selective PHC (Cueto 2004, 1867–68). The shift was broadly in line with the neo-liberal project and the waning power of the WHO to shape the global health agenda with the growing influence of the World Bank and other private and multi-lateral institutions.

The 1993 World Bank World Development Report, *Investing in Health*, articulated a global health agenda in line with the neo-liberal canon. Elements of this agenda included financing prevention and treatment for a select number of infectious

diseases, increased private financing of clinical services outside a small package of essential services for the poor, the allocation of public resources according to technical efficiency and cost-effectiveness criteria and the encouragement of private suppliers for health infrastructure, medicines and human resources (World Bank 1993; Werner 1994). Kelley Lee and Hillary Goodman describe the creation of a new global epistemic community centred around the World Bank and the US Agency for International Development (USAID), consisting of a mix of public and private interests, in which economists with an overarching concern for health system financing predominated (2002, 112). WHO, the Pan-American Health Organization (PAHO), and civil society organizations were noticeably absent. The influence of private actors was increasingly secured within UN decision-making circles through private-public partnerships (Buse and Walt 2002) and today we see the rise of philanthrocapitalism[3] in the global health sector as a significant political force. The Bill & Melinda Gates Foundation, with an annual budget exceeding the core budget of the WHO, is perhaps the most powerful of a growing number of private actors shaping the global health policy agenda, who offer technocratic solutions and a particular form of neo-liberal rationality – an allegiance to market solutions as the means to tackle global health problems, top-down, vertical approaches to specific diseases and magic bullets (People's Health Movement et al. 2008, 256).

Global health governance today is marked by a significant expansion of multi-lateral efforts at global health cooperation, but under the hegemony of this neo-liberal rationality. With regard to the new biosecurity, the forms of knowledge and expertise through which disease threats are understood and managed emerge from an epistemic community of individuals and organizations that are being assembled in new initiatives to link health and security – public health officials, policy experts, humanitarian activists, life scientists, multi-lateral agencies such as WHO, national health agencies such as the Centres for Disease Control (CDC), national security experts, physicians, veterinarians, and government officials (Lakoff and Collier 2008, 9). These new agents of biosecurity tend to share a technocratic, rationalistic and economistic view of health, within which emergency preparedness has become a normal feature (Lakoff and Collier 2008; Fisher and Monahan 2011). Health has come to be viewed as exemplar of humanity's 'new collective insecurity' (Shaw, MacLean and Black 2006, 5). According to Pirages (2007, 625) such 'growing complexity requires more sophisticated forms of governance', as well as the move from a state-centric to a supranational level of global public health governance to address what are, in essence, 'health issues that transcend national borders'. Fidler (2007) postulates that we now operate in a 'post-securitization phase', in which the lens of security is now an integral aspect of contemporary public health governance.

[3] 'Philanthrocapitalism' is a term used by Matthew Bishop and Michael Green to distinguish the 'new' philanthropists such as Warren Buffett and Bill Gates who command billions of dollars, and who, in their view, are improving philanthropy through applying the 'secrets' behind their money making success to their philanthropy. See Bishop and Green (2008, 3).

The WHO 2007 World Health Report is aptly titled *A Safer Future: Global Public Health Security in the Twenty-First Century*. In it, the Director General of the WHO states that 'Shocks to health reverberate as shocks to economies and the business community in areas well beyond the affected area. Vulnerability is universal' (2008, vi). There is much evidence in the report of the convergence of 'soft' and 'hard' discourses of security. The UN has navigated the tension between state sovereignty and multi-lateralism by unequivocally accepting the state as the global unit of analysis in terms of security (Gray 2005, 212), while drawing special attention to the obligation that states have to protect individuals' rights to health and safety against epidemics. This is reflected in the embrace of the language of rationalist/market values in WHO reports, alongside a stated concern for human security and the individual right to health. There is no perceived contradiction between global health security and human security; they are mutually compatible. In the words of the conclusion to the 2007 WHO report:

> Although the subject of this report has taken a global approach to public health security, WHO does not neglect the fact that all individuals – women, men and children – are affected by the common threats to health. It is vital not to lose sight of the personal consequences of global health challenges. This was the inspiration that led to the 'health for all' commitment to primary health care in 1978. That commitment and the principles supporting it remain untarnished and as essential as ever. On that basis, primary health care and humanitarian action in times of crisis – two means to ensure health security at individual and community levels – will be discussed at length in The World Health Report 2008.

The 2008 report, *Primary Health Care: Now More than Ever,* was published on the 30-year anniversary of Alma Ata and documents some of the shortcomings of contemporary health systems, among them the disproportionate focus on hospital care, fragmentation of health services, and the proliferation of unregulated commercial care. It admits that global health gains have been 'unevenly shared' particularly on the African continent where health has stagnated or worsened (WHO 2008). The report is largely silent on the global political and financial context of health policy reform. The WHO has become particularly vulnerable to donor interference from both member states and private powers as the proportion of its expenditures supported by extra-budgetary funds (EBFs) – grants or gifts often tied to specific interests or projects – rose from 20 per cent in 1970 to about 75 per cent in 2007, with the Gates Foundation alone contributing USD99.4 million in 2006, tied for 3rd with Japan: 'What is striking about the budget for 2008/9 … is the reliance on EBFs and the high allocations to communicable disease relative to food and nutrition; non-communicable disease; social and economic determinants of health; and environmental health'(People's Health Movement et al. 2008, 225–9). An open letter drafted by the People's Health Movement to the delegates of the 64th World Health Assembly, held in May 2011, points to the powerful interests that

are pressuring WHO into a restricted technocratic role on communicable disease control and 'health security', distanced from critical determinants of health, such as economic development, justice and peace:

> … It is essential that the reform of WHO be framed around the health needs of people instead of being centred upon the financial crisis. Health policy making over the last 30 years has been distorted by the pressure of odious debt, the defence of intellectual property and the rationalization of an unjust economy. WHO should speak truth to power.[4]

There is much to suggest that PHC and the social determinants of health will continue to take a back seat to the biosecurity concerns of the major industrial powers within the global health governance agenda. John Kirton and Jenevieve Mannell (2007) observe that rising panic over HIV/AIDS and the threat that it posed to the US and Europe first drove the G8's concern, followed by SARS, bioterrorism and avian influenza. Global health, narrowly defined, was added as a main agenda item at the G8 annual summits, with annual Ministerial meetings since 1999 on health security and bioterrorism. They argue that '[S]ince the onset of rapid globalization in 1996, the G8 has emerged through several stages as an effective, high performing centre of global health governance across the board' (Kirton and Mannell 2007, 133). But for whom was the G8 high performing? Here we can begin to see the tensions between biosecurity practices and human security, in the governance of the socioeconomic and geopolitical aspects of neo-liberal globalization. The socioeconomic and environmental impacts of neo-liberal globalization create new health challenges that threaten human security. The concerns that predominate with regard to health security focus on securing populations and economies from a range of microbial threats that could potentially contaminate food supplies, undermine growth and productivity, overwhelm public health systems and, theoretically, challenge the stability of nation-states. Meanwhile, structural influences on trans-border threats to health – climate change, the consolidation of the global industrial food industry, the 'meatification' of global diets, de-peasantization and the movement of populations into sprawling, unhygienic global slums – have become more pronounced during the last three decades of globalization. Some of these tensions can be illuminated through an examination of the sets of knowledge about, and policy responses to, contemporary health 'emergencies' that have been specifically constructed as threats to health security: HIV/AIDS and the new influenzas. In Labonté and Gagnon's 2010 examination of major English language health and foreign policy statements, issued from the early 2000s until 2009, fear of disease pandemics

[4] This is an open letter on the website of the People's Health Movement: 'Comments on the future financing of the WHO', available at: http://www.phmovement.org/sites/www.phmovement.org/files/Future-Financing-of-the-WHO-PHM-May-2011.pdf [accessed: 5 May 2011].

turned up most frequently as a security concern (2010). There are other examples, but it is to these two that this chapter now turns.

HIV/AIDS: The 'Slow Motion' Pandemic

HIV was one of the first pathogens to be constructed as a security issue. In 1990, the US Central Intelligence Agency (CIA) added HIV/AIDS as a variable that might cause greater state fragility and eventual failure, particularly in the developing world (Fourie and Schönteich 2002, 8). The formal securitization of AIDS followed a visit by the US ambassador to the United Nations, Richard Holbrooke, to Africa in December 1999 to witness the impact of the growing AIDS epidemic. On 10 January 2000, the UN Security Council (UNSC) for the first time in its history debated a health issue in terms of security (Behrman 2004, 158–65). This meeting was followed in July 2000 by UN Resolution 1308, which formalized the securitization of HIV/AIDS by referring to it explicitly as a national security crisis.[5] However, the language of human security was also evoked in Resolution 1308, and the Joint United Nations Programme on HIV/AIDS (UNAIDS) was charged with the main responsibility to respond to this challenge. In 2001, Mark Duffield illuminated the manner through which 'development' and 'security' were converging into a new security framework characterized by a blurring of the boundaries between 'soft' and 'hard' security concerns, and by an erasure of historical inequalities within the global system (Duffield 2001). One year after Resolution 1308, in mid-2001, the UN General Assembly held a special session on HIV/AIDS (UNGASS), which went even further in placing the pandemic on the multi-lateral agenda. During the special session, former US Military Chief of Staff and then Secretary of State General Colin Powell (2001) declared: 'It not only kills. It also destroys communities. It decimates countries. It destabilizes regions. It can consume continents. No war on the face of the earth is more destructive than the AIDS pandemic.'

In May 2002, the Clinton Administration designated the spread of AIDS around the world as a threat to its national security. It is not clear how widely these views were shared by other advanced industrial nations, but it appears that the security prism became a central justification for the Bush administration's ramping up its response to HIV/AIDS in Africa. The July 2007 issue of *Vanity Fair*, guest edited by Bono, had this to say: 'We at *Vanity Fair* didn't think there could be a silver lining to the Bush administration, but perhaps, it is, of all things, President George W. Bush's work for Africa. As the OECD … reports, the U.S. has quadrupled aid to the continent over the last six years. In his 2003 State of the Union address, Bush pledged $15 billion to fight AIDS primarily in Africa …' (Robinson 2007, 52).[6]

[5] The full text of the resolution is available at: http://data.unaids.org/pub/basedocument/2000/20000717_un_scresolution_1308_en.pdf [accessed: 5 May 2011].

[6] The theme of this particular issue of *Vanity Fair*, guest edited by philanthrocapitalist Bono, was the re-branding of 'Africa' in line with the shift toward market solutions for global

With sub-Saharan Africa as the focus, the security polemic focused on a number of interrelated threats emerging from HIV morbidity and mortality: the potential negative impacts of deaths of adults in the peak of their productivity on the health of the public and private sectors, on governance and on economic growth; the consequences of HIV infection amongst migrant labourers, soldiers and peace keepers as vectors of infection and drivers of violence; low intensity war and HIV spread; synergies between rural HIV morbidity and mortality and food security, and broader geostrategic 'threats' resulting from high levels of HIV in already unstable parts of the global south (Ostergard 2004 Fourie 2007; Elbe 2009). According to Fourie (2007, 284) the central polemic with regard to state collapse in Africa was based upon rather 'loose and unsubstantiated statements about the covariance of mature AIDS epidemics on the one hand, and state fragility on the other. In other words, there is an assumption that state fragility in itself relates an enabling environment for the vectoring of HIV. Rising prevalence levels in turn are seen to be contributing to state fragility and ultimate state collapse'. Fourie argued that the ideological prescriptions emerging from this model formed the basis of a multi-lateral consensus for '"good AIDS governance" with … exceedingly political implications for the purported links between HIV and democracy, democratic remedies/vaccines against HIV, the inferred links between HIV and fragile states …' (2007, 2877). The link between AIDS and state failure could ostensibly be used as a justification for interventions targeted at specific states and sectors of national interest, and people whose lives are deemed more valuable than others.

Alan Ingram's (2007) case study of US responses to HIV/AIDS in Nigeria illustrates this point. Significant US support for HIV/AIDS prevention and treatment flowed to the Nigerian state because of its importance to US energy security and counter-terrorism in the trans-Saharan region; Nigeria was also considered a key location in the next wave of the pandemic. Ingram analysed the policy documents of a number of private and public institutions engaged in the policy response to HIV/AIDS in Nigeria, including American corporations with oil interests in the region and different branches of the US military, and found that they 'extensively use the new security discourse in the direct service of hegemonic strategy, positing a seamless (though scarcely plausible) continuum between a wide range of concerns: human rights, humanitarianism; governance; counter-terrorism; incorporation into the global economic order; and the vital security of the great powers' (Ingram 2007, 521). The extent to which national security issues have driven the targeting of AIDS funding toward military related initiatives in regions where donor countries have specific economic or geopolitical interests is hard to discern; however, whether imagined or real, the focus on security may well have deflected attention from other countries or sectors where the 'risks' posed by HIV to human security were potentially greater. Similarly, the discursive framing of HIV/AIDS as a threat to national economies has justified a focus on interventions to secure the health of very specific labouring populations. When Anglo Gold in South Africa reported

health emergencies. Bono's Product (RED) was featured as a viable solution to the HIV/AIDS crisis in 'Africa'.

in 2002 that between 25 and 30 per cent of its entire southern African workforce was HIV positive, ARV treatment was provided to its employees to mitigate the impacts on the company's profitability and future expansion (Plumley et al. 2002). The epidemic became a core business issue and other companies followed, including Anglo Coal, Coca-Cola and Eskom. The explicit motive of the business sector was to address and safeguard central business activities through extending prevention and treatment programmes to their own workforces. It was after Coca-Cola was criticized for providing drugs only to its more valuable white-collar workers that HIV/AIDS interventions were extended to its blue-collar workforce and broader communities. As the private sector took on a more active role, public-private partnerships (PPPs) and increased philanthropy reflected the assumption of a 'common purpose and agenda' of business and society (Daly 2000, 31), despite evidence of burden-shifting practices in Zimbabwe, Nigeria, Botswana and South Africa such as pre-employment HIV screening, reduced employee benefits, outsourcing of low-skilled labour and the substitution of capital for labour (Rosen and Simon 2003).

Throughout the 2000s, the emergence of PPPs between the major pharmaceutical companies producing antiretrovirals and the UN, pharmaceutical industry pilot programmes and partnerships between private industry, NGOs and foundations such as Gates and Clinton had an impact on the direction of policies to address the multiple impacts of the pandemic. To give an example, the joint pharmaceutical industry/UNAIDS Accelerated Access Initiative, formed in 2000, was designed to scale up treatment in developing countries, in line with the protection of IP rights and without questioning their role in preventing access (UNAIDS 2000). Part and parcel of such programmes was the provision of cost-effective doses of ARVs to prevent mother-to-child transmission; for years there was a remarkable silence about the ethics of a programme that saved babies while leaving mothers to die, leaving aside the question of who was to care for the orphaned children. There was also a silence around the risk to women of a single, cost-effective dose of nevirapine for developing resistance to this family of ARVs. A hierarchy in the value of human life was implicit in this particular aspect of the response, both between and within countries; at the top, affluent, largely white people for whom HIV infection was understood as a chronic disease; at the bottom, the most marginalized people living outside market relations, whose deaths would have little (measurable) impact on economic growth and state stability. Hence, the presumed disposability of poor mothers in the non-waged and informal sectors, despite their critical role in providing household security through their caring, subsistence and informal labour. Treatment for women has expanded with the general scaling-up of ARV treatment, but provision remains highly unequal, as do the capacities and competencies to improve access. The almost single-minded focus on ARV scale-up has deflected attention away from the complex socioeconomic and political drivers, as well as unequal gender relations and violence, that continue to shape risk and resilience in specific communities (O'Manique 2009). The subtle convergence of 'human security' and 'economic security' concerns in the discursive construction of the policies and

practices within the 'business response' masks the pre-eminence of corporate over human security concerns.

For proponents of the securitization of AIDS it may indeed have achieved what many had hoped: a sense of urgency, and increased funding (particularly of PEPFAR) and position on the political agendas of individual states as well as of multi-lateral organizations. But predictions of state fragility and economic collapse have not been borne out; in fact, countries with mature epidemics – Uganda, Tanzania, South Africa – have maintained steady levels of growth, while addressing the human security impacts of the pandemic in the poorest households has remained marginal in policy responses: the loss of family members, and hence their labour; the systemic increase in inequalities particularly between men and women, given women's central role in the economy of care; and the collapse of the poorest households. Household collapse has manifested through proxy crises – famine and malnutrition, drug-resistant tuberculosis (which piggy-backs on HIV infection), poor subsistence production, the liquidation of assets to pay for medicines and funerals. As de Waal (2003, 3) states: 'Rather, like the effect of HIV on the human body, an "AIDS related national crisis" will consist of a range of pre-existing social and political pathologies, rendered more common and more severe by the underlying vulnerability caused by resource losses due to AIDS.' The long-wave nature of the virus has meant that societies have adapted to a 'new normal' that includes HIV as well as other forms of structural violence. Rather than advancing the human security agenda, the security polemic of HIV/AIDS has tended to be framed within a traditional paradigm that privileges military and economic interests, discursively aligning these with liberal, developmental concerns. The national emergency frame justifies policies that are targeted at key sectors of the economy, have immediate impact and categorize saving (certain) lives as counting deliverables. The construction of HIV/AIDS within this emergency frame rather than the longer term – in fact, according to Barnett (2006, 204) it is a slow-motion lentivirus that might take up to 130 years to play itself out – also deflects attention from social transformations resulting from significant changes in the population structures of many African societies, while another concern that has been raised is the counter-productive effect of 'othering' and stigmatizing selective aspects of epidemics and constructing certain individuals as vectors, who are then seen as the enemy (Elbe 2006; Sontag 2002). In the early years of the AIDS pandemic, homosexuals, intravenous drug users and sex workers were seen as the carriers of a condition that they had brought on themselves, exacerbating the criminalization of individuals, rather than eliciting a response driven by the imperative to make specific communities less vulnerable to infection. The worst impacts of HIV are experienced in contexts of intensified poverty, where health systems are weak, and where there is a scarcity of other basic needs such as access to nutritious food, rest and social supports. Both gendered and the structural analysis of the spread and impacts of HIV are hidden or obscured in the security discourse (O'Manique 2006; Tiessen 2006; Ingram 2007). The crisis of care at the household level, which is experienced largely by women who shoulder the main care burdens, receives little meaningful attention.

While some observers, such as Colin McInnes and Simon Rushton, note that the securitization of AIDS has been overstated and that it has been only one of the motivations for the proliferation of global initiatives (2010, 232), one could argue that its greater impact has been discursive and/or ideological.

The 'New' Influenzas

In contrast to HIV/AIDS, the impacts of the recent influenzas can be distinguished by the potential ease and speed with which they spread from human to human and their immediate impacts, perceived or otherwise. Pandemic preparedness has become a key focus of biosecurity, and is driven by a number of factors. Over the past century, there has been a steady increase in the number of reports of novel sub-types of influenza in both humans and animal and bird species, with experts predicting that it is only a matter of time before the world experiences a more deadly influenza pandemic with potentially devastating short- to long-term consequences. Debrix and Barder describe the climate of fear during the 2009 swine flu epidemic in which people came to fear not so much the disease, but the terror that the disease had come to represent. In this heightened economy of fear, citizens demand protection, and governments have little choice but to respond. In this way, new biological threats have become the objects 'of sustained normalization or heightened regulation' (Debrix and Barder 2009, 401).

The current epidemiologic transition of newly emerging, or re-emerging pathogens is conditioned by accelerated globalization processes. Air travel means that lethal viruses can quickly be transported from one corner of the world to another (Grais et al. 2003). Davis (2005) describes the co-factors that shaped the 2003–2004 avian influenza threat, the H5N1 strain that caused viral panic. The incubator for a potential 'viral apocalypse' was the growth of mammoth industrial poultry factories operating in close proximity to increasingly densely populated human settlements where chickens and ducks freely co-mingled with humans. The worry about the H5N1 strain of avian influenza was that it could potentially develop into a lethal pandemic strain through genetic re-assortment – the mixing of genetic material from an avian and human flu virus during a co-infection. Confirmed individual cases of avian influenza in southeast Asia had a history of direct contact with poultry. But global panic was driven by the prospect of a viral mutation setting off an explosion of human-to-human transmission which in fact, could have had quite significant global consequences.

The underlying forces identified by anthropologist Komatra Chuengsatiansup (2008) that were at work in the response of the government of Thailand, one of the countries at the epicentre of the epidemic, were largely sociopolitical in nature. He describes a situation in which, for months, state officials denied the presence of a bird flu epidemic despite the fact that massive numbers of chickens were dying. At the time of the 2003 outbreak, the son-in-law of the owner of a Bangkok-based agricultural-export conglomerate and largest producer of poultry was sitting in the

cabinet. Media reports at the time alleged that the non-response of the government gave the largest agri-business exporters ample time to process and sell their inventory, and to disinfect their plants. When new cases and fatalities occurred into the next year, 60 million free-range chickens and ducks were ordered slaughtered in Thailand, most belonging to small farmers whose basic livelihoods depended upon them. States Chuengsatiansup: 'While the epidemic caused devastating damage to small farmers, it created a unique opportunity for big agri-business to re-structure the nation's poultry industry' (2008, 55–6). While migrating birds were posited as the primary vector for bird flu, the etiology of avian influenza was more likely located in the international mass movements of birds and bird products from factories that have made the chicken the most mobile bird on the planet (Bingham and Hinchcliffe 2008, 188).

Interventions, then, principally focused on mitigating the potential impact of the epidemic on sociopolitical stability. Global pandemic preparedness has been a central feature of the convergence of security agendas with global health, and significant investments have been made to prepare for emergencies: to improve surveillance and outbreak investigation, strengthen laboratory systems and treatment, prevent spread, develop capacity for risk communication and public education, develop and administer vaccines, and stockpile anti-virals.[7] This ramping up has been, and will continue to be, highly uneven and shaped by vested interests (including the pharmaceutical giants),[8] with western countries focusing on their own pandemic preparedness while the UN system copes with the coordination of the global health security architecture in poor countries (White and Banda 2009). The institutional weakness of the UN system *vis-à-vis* nation-states and the IFIs, its lack of autonomy, and its limited budget, will likely constrain the ability of the WHO to mount a truly global response against the more powerful nation-states who are concerned first and foremost with their own populations and 'national interests.'

Global governance is failing the real test of 'global solutions' based on the ostensible concern that we are all equally vulnerable. Ferguson postulates that a virus similar to the one that caused the 1918 pandemic would likely have a global death toll of 62 million, with only 4 per cent of those deaths in the industrialized world (2006, 2187–8). The global geography of mortality and morbidity is shaped by highly uneven supplies and quality of vaccines, limited anti-viral access and desperate living conditions in mega-slums which face challenges of overcrowding

[7] The Global Alert and Response (GAR) site on WHO pandemic influenza preparedness is available at: http://www.who.int/csr/disease/influenza/pandemic/en [accessed: 1 June 2011].

[8] A 2011 Canadian Broadcasting Corporation (CBC) investigation revealed that three of Canada's most prominent flu experts had received research funding from the makers of the anti-viral Tamiflu, the front-line defence in the 2009 outbreak. Over the past decade Hoffman-La Roche Ltd sold about USD10 billion worth of the drug globally. Half of the USD180 million stockpiled by the Canadian government is about to expire, while controversy over both its efficacy and possible side-effects continue.

and lack of basic hygiene (Davis 2005). Even if a global stockpile of antivirals were created, it is not clear how and under what conditions it would be deployed. Claims of inter-dependence and myths of mutual vulnerability that have accompanied the threats of SARS and avian influenza have not led to significant attention to pandemic preparedness in the global south. A 2010 report on H1N1 influenza in LDCs in sub-Saharan Africa stated that surveillance was virtually non-existent and not sufficiently sensitive to pick up clusters of viral infection – a critical early warning system that a virus is improving its transmissibility. Confirmation of influenza is technically challenging and expensive, infection control difficult to introduce and sustain and high prevalences of co-morbidities (TB, immunosuppression and untreated HIV and STDs, as well as generalized poverty places sub-Saharan African countries at heightened risk of a more virulent pandemic (HPA Global Health, 2010). There is little incentive to comply when the obligation of poor countries to report suspicious clusters of novel diseases might lead to unpopular actions such as the massive culling of smallholder livestock, border closings and quarantine, and when there is little evidence to suggest that the first affected countries would be assisted by the international community. Nor is there incentive if the profitability of the largest industries could be threatened by compliance. Today, as Labonté and Gagnon point out, most health aid focuses on particular disease programmes, while very little is targeted at the public health interventions that reduced communicable diseases in the nineteenth century, such as sanitation, potable water, slum upgrading and disease surveillance and monitoring (2010, 8).

It is likely that the conditions that have created more virulent pathogens, such as the intensification of poultry and/or livestock production within the global agro-industrial food chain, will continue, unabated. The impact of the global financial crisis that began in 2008 will likely further undermine public health in different parts of the world. Gaping holes remain in the most basic health coverage and epidemiological surveillance in places already coping with a wide range of infectious and chronic diseases. Healthcare systems, already fragile and overburdened by the demands of HIV/AIDS, tuberculosis, malaria and other diseases, will become more compromised with the emergence of new influenzas. Estimates now place the number of people on the planet suffering from malnutrition at one billion, a figure likely to grow with the diversion of arable land to the production of bio-fuels, land-grabbing and speculation in agricultural commodities (Patel 2011). Chronic disease, malnutrition, overcrowding, sub-standard water and sanitation, combined with the fragile state of public health systems and access to basic medicines, constitute the elements of the current global health apartheid that will shape risk and resilience in the future.

Human Security and the Limits of Biosecurity

A holistic understanding of the multi-dimensional nature of the factors that shape human health – clean water and air, healthy food, physical security and warmth, bodily autonomy and integrity, rest and leisure, access to health information, health

care and medicines – continues to evolve, but has had only a minimal influence on health policy perspectives and practices. Human health is entwined with the conditions and contexts within which our lives unfold. Hierarchies of class, gender and ethnicity that shape communities and the physical environments in which we live are imprinted on the body. The current governance of the global economy that privileges the security of capital at the expense of human security (Brodie 2003) has a profound effect on global patterns of disease and individual risk and resilience. Today's health and security agenda ignores the human security crisis of health: the boring, persistent, communicable and non-communicable diseases that in fact kill more people annually world- wide than high-profile diseases such as HIV-AIDS. It also leaves untouched the roots of the contemporary 'threats' that have been the focus of biosecurity.

Multiple, reinforcing crises that affect access to health services and medicines and social determinants of health are shaping the global pattern of disease distribution. But the problem goes beyond this to include threats to local ecologies upon which animal, human and plant populations depend. These threats emerge from the interconnected processes of wealth and income polarization and the rise of private power, species extinction, deforestation, land degradation, pollution and climate change. Food insecurity is on the rise, a consequence of the articulation of a range of local and global forces which leads to speculation on food commodity markets and drives up prices; free trade agreements that have undermined local food markets and have led to the global consolidation of agro-industrial economies; and human-induced climate change (Patel 2007, 2011) Those at greatest risk are the most vulnerable communities that depend directly on their local ecosystems for their survival. The twin pandemics of malnutrition and obesity (Patel 2007) are driven by the privatization and consolidation of the agro-industrial model that also produces the new 'threats' of more lethal viruses and food-borne pathogens. These are the same forces that produce the neo-feudal conditions of production in the factories and plantations of the global south that undermine both mental and physical health for hundreds of millions of workers. Zacher and Keefe (2008, 9) point out that 30 per cent of people living in the global south die of infectious disease; the figure is 50 per cent in the case of sub-Saharan Africa, compared to one per cent in the global north. Other chronic, persistent, stubborn, mundane and, in many cases, highly treatable diseases responsible for hundreds of thousands of deaths receive remarkably little attention. We must also consider and account for the huge costs caused by the diversion of labour to care for the sick, and costs to local productivity as well as quality of life.

Although the pathways between particular threats and specific features of globalization are increasingly understood in the emergent health and security agenda, the policy response takes as a given that market-driven globalization, on the whole, is not a threat to human health. As Labonté and Gagnon argue, securitization of health 'remains premised in a conception of the individual made capable to function as a market actor; that is, it supports, rather than challenges, the social and economic assumptions that have driven the past three decades of neoliberal globalization' (15). A human security lens can help to demystify the

pathologies embedded in the current governance of health. The larger and more pressing challenge lies in the broader political project of exposing and addressing the remarkable silences about these pathologies in the current policies and practices not only of global health governance, but in the current governance of the global economy that increasingly privileges the 'rights' of the owners of capital, over rights of human beings (and we could include other species) to the most basic constituents of life. Properly framed, a human security perspective asks the basic questions: Governance for whom? Who lives, and who dies? And who decides?

Biopolitics at the Crossroads of Sexuality and Disaster: The Case of Haiti[1]

Rosalind P. Petchesky

Framings: Intersectionality and Biopolitics

This chapter is an argument for rethinking public health crises through a double lens, integrating the perspective of Foucauldian biopolitics with that of feminist intersectionality. These convergent perspectives direct us to see controversies over public health, particularly in a globalized world fraught with catastrophes, as inseparable from macro-economic and militarized power relations, and such power relations in turn as laden always with contests over the meanings and lived realities of sexuality, race and gender. An intersectional approach invites us to conceptualize every domain or issue of political economy – markets, poverty, growth, militarization, climate change, as well as most problems in public health – as profoundly gendered and sexualized from the start. Conversely, every arena of sexual, gender and reproductive health politics has its deeply macro-economic and development-related dimensions (see Corrêa, Petchesky and Parker 2008; Eisenstein 2004 and 2007; Harcourt 2009; Petchesky 2003). Influenced by moves in queer theory, intersectional analysis also calls into question a regressive gender binarism (the ubiquitous 'women and men'), recognizing instead the multiple expressions of

[1] This chapter originated in a talk given at DAWN (Development Alternatives with Women in a New Era) Development Dialogues, Mauritius, January 2010. Later versions of the paper were delivered at the Mailman School of Public Health, Columbia University; a conference on Urban Youth and the Determinants of Sexual Health at the University of Toronto, Canada; and a conference on Global Flows, Human Rights and Sexual and Reproductive Health at the University of Sussex in Britain. I am grateful to many participants in those events and to a number of readers for their thoughtful comments, especially to Gigi Francisco, Yao Graham, June Larkin, Zillah Eisenstein, Sonia Corrêa, Andrew Park, Maya Unnithan and my research assistant at Hunter College, Ying Huang.

masculinity, femininity and hybridity that travel across diverse bodies and intersect with race and ethnicity in historically and geographically specific ways (see Butler 2004; Currah, Juang and Minter 2006; Puar 2007). A language and politics that erase gender nonconforming people become particularly exclusionary in the midst of disasters, where privileged victim status is routinely conferred on legible 'women and children'.[2]

I will explore these complex relationships through a close and contextualized reading of recent events in Haiti, particularly the aftermath of the 2010 earthquake and the still persistent cholera epidemic. Haiti as a site of colossal, overwhelming disaster raises troubling dilemmas for trans-national public health advocates and humanitarian organizations. It demonstrates the difficulty, if not impossibility, of engaging in disaster assistance or defence of human rights in the pure or 'neutral' terms that public health practitioners and activists have long prized; the dangerously thin line between aid and protection on one side and corporate profiteering and militarization on the other. And it points to the centrality of sexualized, racialized – and sometimes dead – human bodies as both the objects and the subjects of trans-national biopolitics waged in the name of health. All this suggests that we have to complicate even further the usual ways of thinking about current crises in public health by paying attention to the heavy layerings of temporality. For we find the present scenarios in such crises almost invariably haunted by the past – by vestiges of colonialism, slavery, sexual predation and old wars fought in new guises.

Before moving to the Haiti case, let me recollect some of the ideas of French philosopher Michel Foucault that seem directly pertinent to thinking about the trans-national dimensions of disaster, sexuality and public health. In the 1970s Foucault introduced the concept of biopower or biopolitics into the lexicon of theorizing about power and governance.[3] He posited that somewhere around the late eighteenth and well into the nineteenth century in Europe (and in the colonial regimes Europe imposed on the third world) there was a shift in the techniques of power from the classical, juridically based modalities of sovereignty – which worked mainly through the 'right of the sword' and 'power over death' – to forms of governance that took charge of 'life itself'. (Foucault 1978; 1984, 63) The primary focus of what Foucault called 'governmentality' became not only enhancing life,

[2] It seems important to clarify the particular way in which I am using the concept of inter-sectionality in this writing and building on its original meaning. Originally developed by Crenshaw (1991) and other women of colour feminist theorists in the 1980s and 1990s, the intent was to expand narrowly framed identity politics into a more comprehensive view of the multiplicity of identities and subjectivities, particularly for women of colour. Here I am attempting to take inter-sectional perspectives to another scale by positioning subjectivities within the larger economic, social and political contexts that produce them. Those contexts in turn manifest their own intersecting folds and reverberations that relocate and further complicate subjectivities. (Thanks to Zillah Eisenstein for pushing me to expand upon this.)

[3] At the beginning of his first Collège de France lecture in 1978, he defined 'biopower' as 'the set of mechanisms through which the basic biological features of the human species became the object of a political strategy, of a general strategy of power ….' (2007).

but also managing it, regulating it, calculating and quantifying it, normalizing it and organizing it into a whole network of sciences and knowledge regimes claiming their own truth and wielding their own methods. Biopower took two forms as it developed in the nineteenth century: first *disciplinary* techniques that act directly on individual bodies, to render them docile or obedient or 'normal'; and later *regulatory* processes directed at populations – their movements, size, hygiene, sanitation, housing, birth rates, longevity, disease and epidemics. This comprised the whole sphere of 'apparatuses', and the discourses and knowledge they produce, that became the domain of public health and order and rendered them distinctly modern (Foucault 1997/2003; 1978).

Although Foucault notoriously ignored gender, biopolitics as a conceptual frame has obvious relevance to feminist thinking about the body, sexuality and health as a gendered experience and has influenced a wide range of feminist scholars (see Luibhéid 2002; Butler 2004; Puar 2007; Cooper 2008; Corrêa, Petchesky and Parker 2008; Shalhoub-Kevorkian 2009). Thinking about biopolitics has clearly not been as vigorous among public health scholars, professionals and activists as it has, in the past two decades, in the fields of political theory, the social sciences and gender studies. Logically one would think it should, since what Foucault was talking about converges with the concerns of public health, though always through a critical lens intended to unmask the power relations behind the field. For Foucault the main idea is that these new apparatuses or 'truth regimes' – some directly tied to the state and statist institutions and others (for example, the medical and psychiatric professions or the pharmaceutical industry) operating around or outside it – are inseparable from power. There is nothing disengaged, neutral or 'objective' in the knowledge and techniques that biopolitics deploys. On the contrary, whether directed at individual bodies or at populations and 'general biological processes', they '[act] as factors of segregation and social hierarchization … guaranteeing relations of domination and effects of hegemony' (Foucault 1978, 171).

By the second half of the nineteenth century and throughout the twentieth, when the politics of life (migration, settlement, fertility, marriage, contagious disease and so on) became ingrained in state practices and nationalisms, these techniques became the vehicles for racism and genocide. While Foucault's main focus in probing the racism inherent in biopolitics was the Nazis in Europe, he also called attention to colonialism as the laboratory where biopolitical techniques originated and to racial divisions and stereotyping, in both Western and post-colonial contexts, as their continued effects. In his 1976–7 Collège de France lectures, he makes this brief observation: 'Racism first develops with colonization, or in other words, with colonizing genocide. If you are functioning in the biopower mode, how can you justify the need to kill people, to kill populations, and to kill civilizations? By using the themes of evolutionism, by appealing to a racism' (Foucault 1997/2003, 257). Biopolitics and necropolitics are revealed as two sides of a coin. Killing, or letting die, certain groups, the 'degenerates', 'will make life in general healthier and purer' (Foucault 1997/2003, 255).

Critics have argued persuasively that Foucault's thoughts about colonialism and racism are fleeting at best, and in any case he failed to apply them to the experience of the colonized or the legacies of 'colonizing genocide' in the post-colonial world, particularly sites of militarized occupation (see Stoler 2005 and Mbembe 2003). Achille Mbembe and Nadera Shalhoub-Kevorkian both argue that 'late-modern colonial occupation' in places such as East Jerusalem and Gaza combines 'the disciplinary, the biopolitical, and the necropolitical'. They suggest that Foucault underestimated the extent to which technologies of war, terror and violence are central to 'the management of multitudes' in late modernity, whereby 'brutal attempts to immobilize and spatially fix whole categories of people' become intertwined with attempts to secure the health of the occupiers (Mbembe 2003, 34, 12, 27). Shalhoub-Kevorkian describes how 'the multilayered effect of the biopolitical deployment of bodies in a militarized space' is also heavily gendered; women's bodies become 'weapons' to deliver colonial assertions of power and 'the incapacitation of Palestinian males'. Through the construction of 'flying checkpoints' that appear and disappear arbitrarily, Israeli soldiers may conduct strip-searches of Palestinian women at any time, thus marking Palestinian women's bodies as occupied territory and eviscerating Palestinian men's traditional roles as sexual protectors (2009, 118–21). In Haiti, we shall see the similar way in which foreign and United Nations peacekeeping forces wield sexual exploitation as a tool of military occupation, transmuting disaster into the everydayness of barely surviving bodies. Haiti and Palestine both demonstrate that the conversion of biopolitics into necropolitics and the militarization of rescue operations are endemic to situations where colonial occupation and war have become routinized ways of life.

Of course, Foucault – the pre-eminent theorist of sexuality as a historical discourse, an apparatus – perfectly well understood that sexuality lies at the very centre of biopolitics – not simply as a dimension or sub-field, but rather at its core. 'Sexuality represents the precise point where the disciplinary and the regulatory, the body and the population meet', Foucault writes (1997/2003, 251). Surely the politics of HIV and AIDS prevention, family planning, sex education and harm reduction in drug treatment programs make this intersection clear. Moreover, biopolitics also intersects with all the regulatory mechanisms beginning in the eighteenth century related to the flow of goods, capital and labour. That is, the politics of markets, trade and the liberal (*laissez-faire*) and neo-liberal doctrines they would engender are inseparable from those that regulate the flow of people, bodies, miasmas, sexual encounters and cultures of sexual expression. Not by accident did Foucault's lectures of 1977–78 focus on the relations between population, territory and security; and those of 1978–79, titled *The Birth of Biopolitics*, concern the origins and diverse trajectories of neo-liberalism (Foucault 2007; 2008). Securitization of bodies and borders, and the pathways, pathogens and substances that penetrate them, not only serves global capital, but also develops its own logic in the division and hierarchical ordering of human, and all, life. Nowhere do we see a more fertile laboratory for the engineering of these biomixtures than in Haiti.

The Haitian Earthquake and Cholera Epidemic: Disaster as Everyday Life

Haiti may be the epicentre of what the southern feminist organization DAWN has called the 'fierce new world', the most dismal and nightmarish portent of what will happen when imperial occupation, militarization, unbridled corporate exploitation and climate change come together in a hideously perfect storm (Sen and Durano, eds forthcoming). But intersectional analysis as I am using it requires that we further queer the picture, find the sexual in the economic, the racialized body in the body politic. If we take a long historical view, we see that all the cruel assaults on Haiti and its people during the recent crisis are inseparable from the racialized, sexualized gendering of Haitian bodies and the Haitian body politic for well over two hundred years.

Starting in 1791 and culminating in 1804, with the unprecedented shock to white Western sensibilities of African slaves revolting and establishing the first free African republic and the second independent nation in the Americas, Haiti was marked as perverse, a wanton black woman to be perpetually raped and tamed by the more 'civilized' white fathers in the north. When Amy Wilentz, one of the most sympathetic and knowledgeable writers about Haiti, says that 'Haiti has been a pariah nation throughout its history', we can only understand the full meaning of this status through the codings of race, gender and sexuality (Wilentz 2010a). From colonial times to the present, Haiti's relationship to the rest of the world, especially to its ruling powers, was defined through these codings. I am speaking both literally and metaphorically here, referring as much to the exploitation of black female slave bodies as to that of the Haitian body politic; as much to black Haitian women's resilience and resistance as to the feminization and racialization of Haiti as an upstart nation. Journalist Mark Danner recalls that Saint-Domingue in the eighteenth century was 'the richest colony on earth', whose slave labour produced for its French masters massive amounts of sugar cane – the world's most lucrative commodity at the time. He also writes: 'Generation after generation, the second sons of the great French families took ship for Saint-Domingue to preside over the sugar plantations, enjoy the favours of enslaved African women and make their fortunes' (Danner 2010). But the slaves who worked the sugar factories would revolt, and many of those slave workers were women – the same ones whose bodies French bourgeois sons craved. Indeed, Susan Buck-Morss, in her important book *Hegel, Haiti and Universal History*, tells us that a certain percentage of those African slave rebels in the 1790s were Muslims, and one of their leaders was a woman, a Vodou priestess named Fatima (Buck-Morss 2009, 141).

Bonaparte and Jefferson immediately sought to smash the newly independent black nation and to do so with unparalleled vengeance. The French demanded a huge 'punitive reparations payment … in exchange for recognition and the ability to engage in unhampered international trade' (Danner 2010). This was after French armies tried unsuccessfully to quash the revolution and Napoleon imprisoned its legendary leader, Toussaint L'Ouverture (Buck-Morss 2009; Davis 1975). The

United States, fearing the example a free Haiti close to its borders posed for its own slaves, refused to recognize Haiti's independence for nearly six decades, until President Abraham Lincoln finally did so in 1862. After that the United States joined France's 'suffocating trade embargo' and demand for gigantic reparations (Danner 2010; Campbell 2011), followed by a stunning sequence of insults over the next century:

- the first United States military occupation of the island in 1915–34, when soldiers seized and redistributed land to American corporations, forcing debt repayment and retaking all of Haiti as a virtual United States possession;
- the West's (especially French and American) arming and supporting of the vicious Duvalier dictatorship in the mid-twentieth century;
- corporate sweatshops, totally unregulated, that still sometimes pay their mainly female workers between 38 and 50 cents an hour;
- the United States-backed overthrow and expulsion of democratically elected President Jean-Bertrand Aristide *twice* – once after his election in 1991 and again, following his return (aided by the Clinton administration) and re-election, in 2004; and
- Haiti's virtual re-colonization beginning in 2004, as it was brought under the 'protective' occupation of United Nations peacekeeping forces and the renewed imperial oversight of the United States until the present day (see among others Wilentz 1989/2010b; Robinson 2007; Girard 2010; Campbell 2011 for this history).

And let us not forget that the democratic movement that formed Aristide's popular base was made up mainly of the poor, many of them women, as well as youth groups, artists and journalists from the countryside, Cité du Soleil and the Bel Air district of Port-au-Prince. As a detailed study by Luc Smarth (1997) documents, popular organizations in Haiti had developed a strong, democratically run grassroots movement of alternative services and neighbourhood and church groups seeking better education, water, sanitation, housing and cultural resources. These groups often aroused the ire of local elites and international forces and, despite playing a role in Aristide's Fanmi Lavalas party, were sometimes even at odds with its leaders. Aristide had tried valiantly, though unsuccessfully, to end Haiti's debt burden and to support the rural poor. In 2003, he tried to reclaim the money Haiti insisted France owed it from years of extortionary payments – in total, nearly USD22 trillion – to no avail. In 2004, thanks to death squads and a coup orchestrated largely by the United States government, he was removed – not only from office but also from his country.

While the extent of United States imperial dominion over Haiti was well known to political observers for years, in 2011 the Haitian newspaper *Haiti Liberté* and the American weekly *The Nation* began publishing a series of articles based on a trove of nearly 2,000 secret diplomatic cables obtained by WikiLeaks. These articles reveal that Washington's 'aggressive management' of Haiti's internal economy and politics, especially since 2004, was all-encompassing (Editorial, *The Nation*

2011). Among other things, the United States embassy, in collusion with giant oil companies, blocked an oil deal between Venezuela and Haiti (under former President Préval). That deal would have saved Haiti USD100 million a year that might have been used for hurricane reconstruction, health care or clean water. Again at the prodding of US-based corporations and Haitian business elites, the United States opposed raising the minimum wage in Haiti to USD5 an hour and tightly supervised Haiti's police and Brazilian-led United Nations peacekeeping forces (MINUSTAH, or the UN Stabilization Mission in Haiti) to assure the disciplining of rebellious neighbourhoods such as Cité Soleil and Bel Air. These operations included sealing off areas where resistance to the 2004 coup and subsequent occupation was strong and killing, wounding and jailing hundreds of pro-Lavalas leaders and sympathizers; as well as support of elite business sectors that called the protesters 'criminals' and 'bandits' and sought to form their own private armies (Coughlin and Ives 2011a). Finally, the cables reveal the extent of United States interference in Haitian elections – not only its active efforts to keep Aristide from returning to Haiti but also its complicity in excluding Fanmi Lavalas from participating and its support of two Duvalierist candidates, one of whom – a politically inexperienced, anti-Aristide carnival singer, Michel Martelly – won, with a mere 23 per cent of Haiti's registered voters participating (Coughlin and Ives 2011b). Concubines cannot be sovereign nations, and are severely punished when they rebel.

When Earthquake Tomás struck in January 2010 and demolished much of Port-au-Prince and its surrounding area, the first response on the part of the American government was to send 10,000 Marines to perform 'rescue' operations and 500 helicopters to do military flyovers for security purposes (Cooper and Robbins 2010). This is hardly surprising, given Haiti's long history of United States dominance, but it also reflects the nature of so-called humanitarian relief in conditions of globalized militarism. Unquestionably, we live in a world where all large-scale capabilities, and much of daily life, are effectively militarized. The military flyovers during Hurricane Katrina in the Gulf of Mexico in 2005 demonstrated that 'disaster' has immediate security implications; and the systems most poised and equipped to swing into action during crises – including systems for the delivery of health care and humanitarian assistance – are either based on military models or directly operated by military machines. War zones become laboratories for the militarization of humanitarian assistance, including health care, with disastrous effects (see Oxfam International 2010; Nordland 2010). Conversely, disaster zones become front lines for military action – so the US military's Joint Task Force Haiti and Military Engineering Battalion were immediately dispatched to manage camps for displaced persons and the relocation of thousands to less crowded areas outside Port-au-Prince (Webster 2012).

While the situation in Afghanistan is beyond the scope of this chapter, the logic of United States and NATO military officials on duty there, who 'say traditional aid groups have neither the capacity nor the willingness to bring large-scale aid programs to conflict areas', is easily applied to situations of so-called natural disaster (Nordland 2010). Melinda Cooper provides evidence, from official

documents published in the 1990s and early 2000s, that United States foreign policy now defines 'a whole spectrum of potential homeland emergencies – from terrorist attacks to epidemics and freak weather events' – as potential security threats and thus subject to military intervention. After 11 September 2001, 'the boundaries between the realms of war and civil life' became even more blurred, as the United States security apparatus began to categorize public health emergencies, natural disasters and the like as '"biological security" threats' requiring 'the same kind of full-spectrum military response as deliberate acts of terror' (Cooper 2008). Brian Massumi likewise discusses the 'generalized crisis environment' that has re-configured US foreign policy since 11 September 2001. Subsuming every kind of emergent threat – weather, biological, military – under a massive national security apparatus, a new 'civilian-military continuum' paradoxically unhinges normativity by rendering crisis, or a perpetual state of emergency, the new biopolitical normal. Crisis management *is* today's biopolitics (Massumi 2011).

The response to Hurricane Katrina foreshadowed that to the earthquake in Haiti (and subsequently to the tsunami in Japan), with not only military helicopter surveillance, but also the awarding of major contracts for post-hurricane reconstruction to the same military contractors (for example, Halliburton) that have prospered in Iraq. An important paradox Cooper points out in all this is that, at the same time neo-liberal economic doctrine had become fixated on 'emergence' and being prepared for the emergent event, cutbacks in public health and social service budgets and their replacement with military machinery for disaster relief were making such preparedness impossible (Cooper 2008). In fact, the politics of risk – whether in the undertaking of drone attacks or of building and siting nuclear power plants – entail a remarkable underestimation of the probabilities of risk to human and biospheric life, or worse: arrogant judgments about which lives matter and which do not.

In economic terms as well, we see in the Haitian crisis the operation of contemporary global patterns, so that the rumblings of what Naomi Klein has called the neo-liberal 'shock doctrine' and 'disaster capitalism' quickly followed the roar of the helicopters over Haiti. International politicians and development experts rushed in to proclaim the earthquake an 'opportunity' for economic investment, and proposals surfaced to rebuild Port-au-Prince from the ground up; to move its residents out into a whole network of new towns with new systems of privatized transport, housing, sanitation, schools, clinics and commercial outlets; and to decentralize the state (Klein 2007; Olopade 2010). Here too the shadow of Hurricane Katrina looms, as the story emerged that former President Bill Clinton's foundation had awarded a million-dollar contract to a company called Clayton Homes to provide 20 trailers for use as classrooms for Haitian schoolchildren. This was the same company, owned by multi-billionaire Warren Buffett's Berkshire Hathaway that was being sued by the United States Federal Emergency Management Agency (FEMA) for the highly carcinogenic formaldehyde found in trailers it had built for homeless victims of Katrina. But tests have shown that the formaldehyde in the trailers sent to Haiti is 'two and a half times the level at which … sensitive people, such as children, could face adverse health effects'; and the trailers are

entirely lacking in sanitary facilities (MacDonald and Doucet 2011). A similar story of lucrative forms of population management through humanitarian aid lies in the tons and tons of US-government-subsidized rice that have been donated to Haiti, effectively wiping out indigenous rice production (in earlier decades Haiti produced most of its own rice) and making Haiti 'the fourth largest recipient of American rice exports in the world'. Here again President Clinton has been a key promoter of these subsidies, which 'help his home state of Arkansas, the largest rice producing state in the US', while also contributing to the destitution of local rice farmers (Webster 2012). Such is 'humanitarian relief' in the era of disaster capitalism.

Disaster may provide not merely an opportunity but also a primary terrain for aggressive neo-liberal capital accumulation in the twenty-first century. Massumi remarks, 'Neoliberalism, as a process, does not presume stability'. He reminds us that Foucault, in his *Birth of Biopolitics*, understood neo-liberalism as operating in '"an indefinite field of immanence" in which life falls under the "dependence" of a "series of accidents"':

> The neoliberal economy is in a state of enterprise emergency by nature, at every complexly interconnected level, from the local through the national to the global. And it embraces that condition. Its mechanism is to ride waves of *meta*stability through the turbulence of a permanently uncertain environment … . It does not try systematically to shelter itself from the storm. It spontaneously self-organizes following the turbulence of a far-from-equilibrium environment whose immanent agitation never ceases to haunt it with the specter of wave-convergent synergies suddenly forking into crisis … It is emergent order on the edge, riding the wave crest of everywhere-apparent chaos. (Massumi 2011, 36–7)

The troubling, if by now all too familiar, scenarios of militarized crisis as investment opportunity have a very particular significance in the Haitian context. It is not a sign merely of incompetence or skewed priorities that the instant militarization, occupation and rush to find highways to economic boondoggle were accompanied by obscene neglect and failure to provide the most basic, critical medical and sanitary resources, again recalling Katrina. At a meeting sponsored by DAWN in Mauritius in January 2010, we heard reports from colleagues that the United States government, which had seized control over airports and seaports, was blocking access to CARICOM relief groups and Médecins sans Frontières (MSF), so experienced health responders could not reach Haiti. Confirming these anecdotes, the *International Herald Tribune* reported that eight of MSF's planes carrying emergency medical equipment, as well as United Nations World Food Programme planes, had been diverted from landing in Port-au-Prince by officials of the United States Air Force, now in command of the airport. Meanwhile, a private plane carrying the governor of Pennsylvania, seeking to help transport Haitian orphans to the United States, was allowed to land (Carvajal 2010). The Clinton

Foundation's 'gift' of leaky, formaldehyde-laden trailers with no toilets or running water is 'a classic example of aid designed from a distance with no understanding of ground realities or needs' (MacDonald and Doucet 2011). Or perhaps the lack of understanding is wilful, given Haiti's enduring status as the hemisphere's foremost state of exception.

We need to critique these skewed priorities on two scales: at the geopolitical level, the global trend since the mid-1990s, discussed above, toward the militarization and capitalization of humanitarian disaster relief; and at the local level, the particular meanings of this trend given the long history of Haiti's neo-colonial occupation by United States military forces and United Nations peacekeepers.[4] At the level of the local and particular, we should notice how seamlessly Haiti – supposedly a sovereign state – becomes folded into United States policy for securing the 'homeland'. Militarization and securitization of post-earthquake emergency relief maps onto Haiti's historic status, in the eyes of the West, as its black female upstart and its forced concubine. That status invites a third response to Haiti's crisis, in addition to militarization and economic exploitation: conservative moralizing. The nineteenth century colonial agenda of 'civilizing the natives', with its highly gendered and racialized dimensions, is alive and well here. When the disaster struck, United States evangelical preachers saw signs of God's wrath, with the Reverend Pat Robertson informing us that Haiti had long ago made a 'pact with the devil'. This was a clear allusion to the misunderstood practice of Vodou, or Voudou, which white Westerners have always seen as not only 'uncivilized' and 'unchristian', but also sexually perverse. The implication of course is that Haiti's plight is her own fault, attributed to her cultural backwardness and profligacy. More telling still are the words of conservative columnist David Brooks, hardly a member of the right-wing evangelical fringe, in a piece called 'The Underlying Tragedy' he wrote for the *New York Times* shortly after the earthquake. It is worth quoting from Brooks' (2010) column at some length:

> Haiti, like most of the world's poorest nations, suffers from a complex web of progress-resistant cultural influences. There is the influence of the voodoo [*sic*] religion, which spreads the message that life is capricious and planning futile. There are high levels of social mistrust. Responsibility is often not internalized. Child-rearing practices often involve neglect in the early years and harsh retribution when kids hit

[4] According to Amy Wilentz (2011), Aristide had a direct role in the establishment of United Nations peacekeepers in Haiti when he disbanded the national army after they worked to oust him. Mimicking previous administrations, President Obama tried to pressure the South African government not to allow Aristide's return to Haiti before the presidential election run-off. But the South African government resisted, and Aristide, who is ineligible to run for another term in office, did return in March 2011 – to the cheers of his millions of poor, female and young supporters and the anger of the wealthy elites who oppose him (Archibold 2011c).

> 9 or 10 … Some cultures are more progress-resistant than others, and a horrible tragedy was just exacerbated by one of them.

In other words, Brooks appears actually to be blaming the Haitian 'tragedy' on bad mothers and exporting to Haiti a stereotype aimed at African American women for at least 150 years, through 'Jezebel' and 'brood sow' images and the 'pathological family' of the 1965 Moynihan Report. His 'solution' is also painfully familiar: '… the programs that really work,' he argues, 'involve *intrusive paternalism*' – '[replacing] parts of the local culture with a highly demanding, highly intensive culture of achievement – involving everything from new childrearing practices to stricter schools to better job performance' (Brooks 2010).

Or, failing that, perhaps Brooks would recommend sending rescue missions to whisk Haiti's children to be raised in the United States. Indeed, 'intrusive paternalism' took concrete form, as the *New York Times* reported 'a baby lift unlike anything since the Vietnam War', with some 1,150 Haitian children 'swept up' for adoption by American families. This operation was facilitated by the Obama administration's waiver of visa requirements for the children and without the usual screening to make sure the children were actually orphans or in distress, had no relatives in Haiti willing to care for them, or were being placed in safe and adequate home environments in the United States (Thompson 2010) – in effect, a mass, officially sanctioned kidnapping. Here we have colonialism full-blown, along with classic blaming the victim and assurances that 'cultures do change after major traumas' (Brooks 2010). In this view, the earthquake presents not just 'economic opportunity' but also an opportunity for Haiti's cultural and moral redemption – to become more like us, or more like the white corporate heterosexual man.

Sadly, evangelical neo-colonialism has not met with the kind of local resistance Haitians frequently mete out to foreign occupiers. Although, as a former French colony, Haiti has no laws criminalizing homosexuality, it has a local culture almost as susceptible to conservative moralizing and the homophobic propaganda of North American and home-grown evangelical preachers as are many parts of the United States. According to a qualitative study by the International Gay and Lesbian Human Rights Commission (IGLHRC) and SEROvie (2011), a Haitian organization providing HIV and other services to men who have sex with men and transgender women, immediately after the earthquake 'local and foreign religious zealots [began] blaming both Haitian culture and its gay community for calling down the wrath of God' and causing the disaster – a form of 'accusatory theology' that has surfaced in many disaster sites across the globe. When an AIDS service organization's office was destroyed and several of its staff members killed, neighbours were heard cheering, 'Thank you Jesus, the president of the paedophiles is dead' and 'Death to the Masisi [gays]'. Post-earthquake radio and church sermons not only blamed 'sinners' and sexual immorality for the catastrophe, but also invoked the common belief associating Vodou practice with homosexuality and transgender expression (IGLHRC/SEROvie 2011, 7). As we shall see, these attitudes render sexual and gender nonconforming people triply vulnerable in conditions of disaster.

As six-month and one-year benchmarks passed after the earthquake struck Haiti, commentators were unanimous in condemning the slowness and paltriness of recovery efforts and the 'absence of a coherent plan' (Editorial, *The Observer* 2010). By ten months after the quake, only 5 per cent of the millions of cubic yards of rubble covering the affected areas had been cleared, and only a small fraction of the 1.5 million people who lost their homes had been moved to safer housing. Over a million (including 380,000 children) were still living in makeshift tent cities, in shanties in dangerous areas such as urban median strips, in the over 1,000 camps for internally displaced persons, or in the seemingly endless piles of rubble. Landowners began forcibly evicting people living in squatter camps and tent cities, now left with no place to go and no protection from the government (Center for Constitutional Rights 2011). Only around 2 per cent of the promised 125,000 better-standard housing units had been built, and only 10 per cent of the USD5.3 billion in aid pledged by foreign donors had actually reached the Haitian government. (Sontag 2010a; Delbert 2010; Editorial, *The New York Times*, 2010; Interlandi et al. 2010; Quigley and Shah 2011)

By the two-year benchmark, at the end of 2011, the numbers of displaced homeless people had been reduced by nearly half, thanks to the construction of modest but permanent shelters, leaving nearly 520,000 'people still living in tents and under tarpaulins without access to running water, a toilet or a doctor'. Moreover, according to an Oxfam Briefing Report, 'half of the rubble remains uncleared … few Haitians can access basic services; much [70 per cent] of the workforce is unemployed or underemployed; [and] 45 per cent of the population face food insecurity'. And of the many billions of USD pledged for reconstruction in 2010–11, only 43 per cent had been disbursed by the end of 2011 (Oxfam 2012; Webster 2012). Even the relief funds that did materialize seemed to float in an institutional vacuum. According to a *Newsweek* research team writing in November 2010:

> Neither the Haitian government nor any of the countless NGOs that have descended on the country are capable of directing vast sums of money in the business of large-scale disaster recovery and reconstruction. In fact, disbursing the funds that have landed is proving so difficult that the Red Cross has stopped actively soliciting donations, and the World Bank … has deliberately slowed the flow of cash to Port-au-Prince.

The clear implication of this analysis is that only the private companies waiting in the wings to maximize their investments in the Haitian disaster have the capacities to clear and rebuild the country (Interlandi et al. 2010).

On top of the hordes of NGOs, a post-earthquake United Nations entity was created, the Interim Haiti Recovery Commission (IHRC), headed by Haitian Prime Minister Jean-Max Bellerive and former United States President Bill Clinton. In a *New York Times* op-ed piece that perfectly illustrates the neo-liberal model of catastrophe, Bellerive and Clinton called upon 'the partnership and cooperation of

the World Bank' to facilitate the release of Haitian reconstruction funds promised by governments. They also hailed the 'ample opportunities for investments with longer-term dividends – in agriculture, construction, tourism, manufacturing, service industries and clean energy, especially solar' – that beckon disaster capitalists to Haiti (Bellerive and Clinton 2010).[5] To guarantee the security of these investments, some 12,000 peacekeeping troops (MINUSTAH), installed in 2004, have been 'an international occupation force … which controls the forces of order in Haiti to this day' (Liana and Doucet 2010; Wilentz 2011). Haiti, in other words, is a society run by the global, militarized system of humanitarian relief. As one commentator puts it bluntly, 'Haitians do not rule Haiti, and have not since 2004' (Podur 2011).

Thus, at the heart of the post-earthquake failures lies the phantom nature of the Haitian state. In addition to bureaucratic snarls and the diplomatic intricacies of figuring out how to divide responsibility between local and international authorities, the already weak Préval government was decimated in the disaster, most of its buildings and almost 20 per cent of its work force destroyed. But this political weakness can only be understood in the context of the 200 years of foreign dependency and occupation discussed earlier. As the *Newsweek* article puts it, 'Haiti's public sector crumbled long before its presidential palace'. In the early 2000s, the Bush Administration's 'sustained campaign to block aid from reaching the Haitian government' of President Aristide meant diverting any assistance away from the government to NGOs, a pattern followed by most international donors in Haiti. As a result, according to Dr Paul Farmer – currently United Nations Deputy Special Envoy for Haiti, founder of Partners in Health, and longtime provider of HIV/AIDS treatment and prevention and other health care in rural Haiti – Haiti in the past decade underwent a kind of re-occupation, this time by armies of non-governmental and inter-governmental agencies funded by billions of dollars in humanitarian assistance monies – creating what some have called 'a republic of NGOs'. According to Farmer, '[e]ven before the quake, there were more NGOs per capita in Haiti than in any other country around the world, save India'. International NGOs and contractors not only absorb enormous amounts of foreign assistance monies without any accountability, but also take over the job of Haiti's public sector, which United States law prohibits from receiving foreign direct investment in any case. So Haiti, weakened by the earthquake, 'needed many of the foreign contractors and NGOs', but their presence further weakens the country's governance and job-creating capacity – a 'vicious circle of dependence' (Farmer 2011, 99; Carroll 2010).

Nowhere have the distortions of militarized humanitarianism and its direct conflict with the human rights of health become more evident than in the cholera epidemic that broke out in the aftermath of Haiti's earthquake. As early as July 2010, at least one commentator was warning that the severe level of displacement and homelessness had 'dramatically increased the risk of communicable disease

[5] The IHRC's mandate expired in October 2011, with most of its approved projects left unfinished. At this writing, the mandate had not been renewed.

transmission' as well as respiratory illness, mental health problems, sexual and gender-based violence and HIV/AIDS. People living with AIDS in Haiti numbered 120,000 before the earthquake; their vulnerability to opportunistic infections and tuberculosis has undoubtedly risen in the post-earthquake chaos (Williams 2010). No one, including public health experts, anticipated that cholera – a disease not seen in Haiti in 50 years – would suddenly appear in the region of Artibonite and then spread rapidly to other parts of Haiti so that by May 2011, over 4,500 people had died and 300,000 cases been documented (Archibold 2010a; McNeil 2010; United Nations Final Report 2011). At this writing, the epidemic, far from being under control, seemed to be growing still.[6]

What triggered the epidemic, and why has a disease that in most parts of the world is fairly easily contained and cured become so lethal and out of control in Haiti? The answers are political as much as epidemiological and reflect the deadly mix of poverty, disaster, neo-liberal economic and political regulation and military occupation that define Haiti's status as the feminized, racialized pariah of the hemisphere. The reporter who broke the story of the cholera outbreak in October 2010 traced it to an overflowing septic tank behind the United Nations base housing peacekeepers from Nepal; the United States Centers for Disease Control and Prevention confirmed that the cholera strain was similar to one from South Asia; and Harvard University's chair of microbiology concluded that it 'very much likely did come either with peacekeepers or other relief personnel' (Delva 2010; Katz 2010a; MacDonald 2010). An independent panel of experts set up by the United Nations to review all the existing studies and medical records also confirmed that the strain of the bacterium causing the cholera outbreak came from fecal matter dumped into the septic tank and the river system behind the MINUSTAH camp housing the South Asian peacekeepers. But the panel also emphasized that the further spread of the disease was due to a whole 'confluence of circumstances', primarily Haitian people's lack of access to safe water, sanitation and adequate medical care (United Nations 2011).

All commentators have observed how the conditions of earthquake devastation and pre-existing poverty have contributed to this calamity. Since cholera spreads through fecally contaminated water, the lack of decent sanitation facilities and potable water sources and inability to afford bottled water that millions of poor and displaced Haitians have to cope with, along with crowded camps, create the perfect medium to grow an epidemic (Archibold 2010b; PAHO 2010). Being forced to drink from contaminated river water, to defecate in jars or plastic bags or the open ground, or to wash babies' diapers in the river from which you drink, represents gross violations of the internationally recognized 'right to the highest attainable standard of health' contained in many human rights documents (Petchesky 2003; Gerntholtz and Rhoad 2010; Quigley and Shah 2011). These

[6] A study published in *The Lancet* predicted that, without a full offensive involving reduced consumption of contaminated water, vaccinations and use of antibiotics, 779,000 more cases and around 11,100 cholera deaths would occur by end of November 2011 (Andrews and Basu 2011).

bleak conditions also constitute violations of women's reproductive health rights. According to the feminist solidarity organization MADRE, 'When the earthquake struck, there were an estimated 63,000 pregnant women in Haiti. With extremely limited access to emergency obstetric care, including a severe shortage of skilled midwives and maternity clinics, many pregnant women were forced to deliver their babies in the street.' (MADRE 2010a) The cholera epidemic simply compounds the drastically high maternal and infant mortality in Haiti, adding infectious disease to homelessness, lack of prenatal and obstetric care and the rapes that sometimes cause unwanted pregnancy.

To argue that human rights are at issue here (on the more general question of human rights and health in a globalized world see Chapman, this volume) is to return to the materiality of power: denial to Haitians of the most basic infrastructural conditions for realizing the human right to health is a matter, not of unforeseeable natural disaster, but of biopolitics and deliberate global policy. In 2000, as part of its campaign against then President Aristide, the United States government blocked an Inter-American Development Bank loan of USD54 million meant to improve Haiti's public water system. According to one report, 'the United States actively impeded the Haitian government's capacity to fulfill Haitians' human right to water through its actions, thus breaching its duty to respect human rights' (MacDonald 2010; Farmer 2011). Beyond the human rights violations, such actions epitomize the 'letting die' of necropolitics, and the infected dead bodies that relatives are too fearful to claim become the most abject symbol of Haiti's pariah status (Archibold 2010b). A World Health Organization spokesman, commenting on Haiti's latest crisis, says: 'We really need to reconstruct water and sanitation systems for the cholera epidemic to go away completely' (Roberts/BBC 2011). Are humanitarian efforts and foreign investments through such neo-liberal entities as the IHRC likely to make this happen, much less to restore Haiti's nationhood? As Aristide wrote prior to returning to his country, 'What we have learned in one long year of mourning after Haiti's earthquake is that an exogenous plan of reconstruction – one that is profit-driven, exclusionary, conceived of and implemented by non-Haitians – cannot construct Haiti' (Aristide 2011).

But the Haitian pariah continues to rise up and rebel, never content with passive victimhood. The reports linking the cholera epidemic to United Nations peacekeepers provoked angry, sometimes violent or armed protests against the base and the peacekeepers, with shouts of 'MINUSTAH go home', followed by the deployment of anti-riot police to quell the protestors (UPI 2010). Those riots themselves echo many others in previous years, reflecting a deeper and more longstanding popular resentment against the United Nations occupation troops for draining scarce resources, including health care and aid funds; for policing and abusing Haitian residents; and for being an occupying force, entirely unaccountable to the Haitian people, that both signifies and carries out Haiti's subjection since the overthrow of Aristide (Katz 2010a; Naiman 2010). Of especially bitter memory are the cruel suppression of the resistance to the 2004 coup that ousted President Aristide and the killing of so many pro-Lavalas supporters. According to the WikiLeaks reports discussed earlier, MINUSTAH troops had carried out this suppression,

shooting people in the streets and markets and assassinating a revered pro-Lavalas leader in 2005 (Coughlin and Ives 2011a). But perhaps the most egregious human rights violation by occupying troops is that of persistent sexual abuse.

Another epidemic came to light in the aftermath of Earthquake Tomás in Haiti: the epidemic of sexual and gender-based violence against women, children and transgender people – violence that is frequently perpetrated by United Nations peacekeepers and international aid workers. Field reports by Human Rights Watch, journalists and local women's NGOs attest to a sharp increase in rapes, beatings and threats against women and girls, especially among those sleeping in the camps or the streets. As in thousands of camps across the globe, conditions such as 'poor or nonexistent lighting, unlockable latrines, adjacent men's and women's showers and inadequate police protection' contribute to this escalated risk (Giles and Hyndman 2004; Rhoad 2010; Sontag 2010b). Thus a petition filed in January 2011 before the Inter-American Commission on Human Rights by a group of advocates and attorneys for displaced women in Haiti argued that the insecure conditions of the camps and the massive homelessness brought by the earthquake underlie this 'epidemic of sexual violence', making 'permanent, safe housing for Haitians' a matter of 'utmost urgency'. The Commission responded by recommending improved security patrols and better lighting in the camps; 'access to medical care (including emergency contraception for survivors of rape and sexual assault …)'; legal accountability; and 'full participation and leadership of grassroots women's groups in anti-violence policies and practices in the camps' (Center for Constitutional Rights 2011). Prompted by an anti-rape forum held in Port-au-Prince in May 2011, the newly elected Haitian government promised new legislative measures and better police training, as well as improved housing conditions, to meet the security needs of internally displaced persons (Anzia 2011).

It is certainly true that the conditions of 'bare life' and deprivation in the camps, where millions displaced by armed conflict and disaster reside, escalate the risk of sexual violence (Agamben 1998; Laurie and Petchesky 2008; Petchesky and Laurie 2010). Yet sexual violence by peacekeepers and aid workers in Haiti pre-dates the hurricane and speaks to Haiti's chronic subordination as a 'kept' society, under continual international military occupation. In March of 2005 a flurry of reports by United Nations officials and internal documents, international human rights organizations, journalists and local observers alleged that United Nations peacekeepers in many countries ridden with poverty and conflict – Haiti heading up the list – engaged regularly in acts of rape, prostitution, sex trafficking and paedophilia with women and girls (sometimes as young as 12) among the populations they were assigned to protect (Bowcott 2005; Lynch 2005). In May 2008, Save the Children Fund issued a report documenting 'the underreporting of child sexual exploitation and abuse by aid workers and peacekeepers' in Southern Sudan, Côte d'Ivoire and Haiti. Based on field visits, focus group discussions and in-depth interviews in towns, villages and rural areas, the report identified many forms of sexual exploitation – sexual favours in exchange for food, soap or mobile phones; forced sex; verbal sexual abuse; child prostitution or trafficking –

inflicted on children as young as six, mostly girls but boys as well.[7] While workers with many humanitarian organizations were implicated in such abuse, by far the largest volume of complaints was registered against agents of the United Nations Department of Peacekeeping Operations, that is, predominantly male peacekeepers in the blue helmets (Csáky 2008, 8–9). One young Haitian boy, when asked why kids seemed reluctant to report such incidents, replied: 'Who would we tell? We wouldn't tell the police because they are afraid of the peacekeepers and they can't do anything. Anyway, I've heard that the police do this kind of abuse too' (Csáky 2008, 14).

If the earthquake's devastation and displacement exacerbated the risks of violence against heterosexual women and children, the insecurities faced by lesbians, gay men and transgender people in post-earthquake Haiti have multiplied tenfold. According to the IGLHRC and SEROvie field study cited earlier, which interviewed around 75 LGBT people in Haiti in 2010, discrimination, violence and stigma based on sexual orientation and gender expression were widespread in Haitian society prior to the earthquake. However, the disaster left sexual and gender minorities far more vulnerable insofar as 'it decimated the already limited physical spaces, social networks and support services available to them' (IGLHRC/SEROvie 2011, 3). And, like the dead cholera victims, the bodies of transgender and gay activists killed in the earthquake, the most abject of the abject in a pariah society, could not be claimed (7). Those who survived have found themselves not only shunted into camps and exposed to sexual violence and harassment like cis-women and girls, but also victimized by exclusion from (or increased exposure in) sex-segregated bathrooms, health services and emergency food distribution. Since priority in food rations is often given to female household heads, gay and transgender men, whose families have frequently rejected them, have tried to disguise themselves as women in order not to go hungry. Lesbians, bisexual and transgender women, on the other hand, reported feeling 'unsafe in crowded, volatile environments' and being stigmatized as prostitutes. Even more than heterosexual women and girls, LGBT people view the police and peacekeepers as likely attackers rather than potential protectors (IGLHRC/SEROvie 2011, 4–6). Unfortunately, the most visible organizing against sexual and gender-based violence in post-earthquake Haiti seems to ignore these realities.

So we return to sexuality as the lynchpin of biopolitics and have to wonder, when we talk about the militarization of humanitarian interventions are we inevitably talking about their sexualization as well? Is sexual abuse endemic to military occupation, and does it work in some ways to aggravate homophobic and transphobic violence and discrimination already embedded in the society (Giles and Hyndman 2004; Zarkov 2008; Corrêa, Petchesky and Parker 2008; Shalhoub-

[7] 'My friends and I were walking by the National Palace one evening when we encountered a couple of humanitarian men. The men called us over and showed us their penises. They offered us 100 Haitian gourdes (USD2.80) and some chocolate if we would suck them. I said no, but some of the girls did it and got the money' (15-year-old Haitian girl) (Csáky 2008, 5).

Kevorkian 2009)? Should we have been surprised when people in Cap Haitien violently attacked United Nations troops, whom they perceived to be the source not only of disease and death from cholera, but also of years of harassment, surveillance, impunity and rampant sexual abuse of themselves and their children? On the other hand, should we be surprised that some of the earthquake's victims turn on their sexual and gender nonconforming neighbours as scapegoats to blame for a calamity that seems too cruel to blame on God? The politics of sexuality and gender undermine unity against economic injustice and militarism because they have affective power. They arouse passions about individual bodies and identities through norms of true 'manhood' and 'womanhood' and moral virtue, as well as passions about collective bodies and identities through post-colonial rejection of all that is associated with foreign (US) domination. Human rights strategies such as petitioning the Inter-American Commission may be useful, but we also need to note the distinctly heteronormative terms of the Commission's recommendations (see above), the exclusions performed there. We have to reflect soberly on the limits of legal pronouncements, not only to achieve enforcement in their own terms, but also to address a virulent culture of homophobia and transphobia and to transform the underlying structures of power that help to sustain it.

Regarding Haiti's governmentality crisis, *The Observer* urges 'the international community' to step in but 'without special interest, without hidden military agendas and without economic preconditions'. But which imagined 'international community' is this? The one United States presidents have invoked through Security Council resolutions that endorse the bombings of Iraq and Libya? The one that rouses global financiers and private contractors to find lucrative opportunity in disaster? Or the one that garrisons sexually abusive peacekeepers? In the case of Haiti, international 'aid' free of such economic, military and sexual price-tags seems, in the current state of things, unimaginable. Some human rights advocates and journalists, on the other hand, would counter neo-liberal disaster capitalism and neo-conservative 'intrusive paternalism' with a more democratic model. They urge involving the Haitian people and local civil society groups in decisions about reconstruction and developing 'multisectoral approaches' that prioritize 'community home-based care systems' and community-based decision-making methods for health care and urban and rural planning (Editorial, *The Observer* 2010; Rhoad 2010; Williams 2010). But, as we have seen so tragically in Iraq and Afghanistan, this sort of grassroots people's reconstruction is precisely what militarized biosecurity systems are intrinsically ill-equipped, and unmotivated, to do. The militarization of humanitarian relief has exacerbated its tendency to get stuck in the 'emergency' phase of a disaster, leaving the victims to languish indefinitely in camps; or, alternatively, to facilitate the 'clearance' of poor areas and impoverished people to make way for high-powered investors and their development projects.

Andrew Park suggests that 'humanitarian groups' are able to carry out the long-run objectives of 'state regulation and discipline' precisely because 'they deal with health, rewards, livelihood and income generation, and security' and thus come even closer than traditional military methods to biopower as Foucault

envisioned it. The prototypical biopolitical form, as Agamben (2005) argued, is the refugee or internally displaced person camp, whose 'essential nature … is security' and supervision over every aspect of daily life (Park, personal communication). But militarization also exists here in the form of doling out rations, subcontracting operations and policing bodies. Indeed, the militarization of disaster capitalism and the privatization of military pursuits have become so entangled with humanitarian actions that they now comprise a single, complex system of governmentality to regulate bodies and populations caught up in crises.

Conclusion – Resisting or Re-Inventing Biopolitics?

How might we imagine democratic, social justice based approaches to sites where sexual hysteria and climate or other disasters converge? How can we counter the prevalence of militarized neo-liberal biopolitics in such crises? This analysis has identified four existing forms of biopolitical governmentality at the global level in sites of disaster: (1) militarized humanitarian intervention, (2) neo-liberal disaster capitalism (often partnered with (1)), (3) neo-conservative 'intrusive paternalism' (including evangelical neo-colonialism), and (4) trans-national human rights activism. I have critiqued the first three as hopelessly tainted by self-interest, imperialist motives, stigmatization, sexual exploitation, disempowerment of local populations and other problematic tendencies. Implicit in that critique is also the question of, not when or how should 'the international community' step in to alleviate local crises, but rather *who or what is* 'the international community'? While a full exploration of that question far exceeds the scope of this chapter, in conclusion I want to address the role of trans-national human rights and social justice activists in responding to the biopolitics of sexuality and disaster. Are trans-national activist campaigns, however well intentioned, integrally bound up in global biopolitical governmentality? Do they sometimes produce their own forms of 'intrusive paternalism', anti-colonial backlash, local disempowerment, and racist stereotypes? And what strategies might help to avoid these minefields?

Thinking strategically requires that we first reconsider, with full honesty, what biopolitics is and the ways in which activists are necessarily or unnecessarily caught up in it. We have seen that militarization, racialization and sexual and gender economies weave tightly together in the production of biopolitics as a 'general strategy of power'. But the disciplinary and regulatory effects of biopolitics exert power because they work through affect, simultaneously imbuing fear and hatred into individual bodies/psyches, constructing homophobic societies, and producing resistant or oppositional sexual and gender identities. We cannot 'escape' biopolitics any more than we can escape macro-economics or the reality that security is a basic human need as much as it is a tool of political domination and imperialism. The challenge here is to recognize that when we advocate for quality public housing, reproductive health care and sanitation for the displaced; or for protection of women, children and gender nonconforming people from sexual abuse, we are

engaging in oppositional biopolitics. How do we do so in a way that is not steeped in paternalistic neo-colonialism, disabling legalism and racism?[8]

Post-structuralist and post-colonial writers have presented a challenging critique of human rights and humanitarian discourses deployed by trans-national advocates as reducing Africans and peoples of African descent, including Haitians, to the status of helpless victims. Such discourses, they argue, reinforce racist tropes of Haiti and Africa as the site of darkness, violence and barbarism while perpetuating the arrogant assumption of northern-based NGOs that they are 'rescuing Africans from their death driven impulses'. Tavia Nyong'o (2012), for example, states:

> If Africans [or Haitians] are the permanent targets of humanitarian intervention, who repeatedly have to be rescued from the worst they are about to visit upon themselves, then they cannot become visible as agents of a transformational critique of globalization, or of the impoverished, exploited position they have been assigned within it.[9]

To avoid the pitfalls Nyong'o warns against, it seems to me trans-national sexual and health rights activists, especially those based in the global north, but also the south-based queer and feminist subjects who often get pulled into legalistic and neo-liberal frames, need to embrace two critical strategic positions. First, trans-national campaigns seem most effective when undertaken in solidarity with, indeed under the leadership of, local groups working on the ground whose knowledge, courage and expertise are often formidable even if their resources are small. In Haiti, many examples exist in spite of horrific conditions. In contrast to the racialized, sexualized stereotypes of helplessness and hopelessness, consider the actual work and recovery efforts on the ground of local women's groups in Haiti's disaster areas. For example, the Zanmi Lasante Clinic in Haiti, MADRE's partner organization, is a community-based clinic that delivers comprehensive primary care regardless of people's ability to pay. Its doctors, nurses and community organizers address social and economic rights issues, such as dozens of water projects in rural villages, as well as reproductive, sexual and primary health care needs. During and following the earthquake, the Zanmi Lasante staff worked tirelessly to identify the most urgent needs of devastated women and families and to mobilize delivery of direct medical aid and supplies (MADRE 2010). This reminds me of

[8] Once again I am indebted to Andrew Park for reminding me of how Foucault's understanding of the 'productive' nature of biopolitics and discourse means we always are inside, not ever standing on some privileged outside (personal communication).

[9] Nyong'o's analysis is problematic in that he conflates all human rights advocacy into a single, stereotyped mold, ignoring that human rights is a distinct regime from humanitarianism and the multiple ways in which it has become a dynamic discursive field for a wide variety of social movements – transgender people, Dalits, sex workers, indigenous peoples – claiming their agency, not their victimhood (see Corrêa, Petchesky and Parker 2008, chapter 7).

the extraordinary heroism of black women's groups during and after the Katrina hurricane in the United States Gulf and the larger truth that, whether as nurses, clinicians, neighbours, mothers and grandmothers, or self-organized community groups, African-descended women actively respond to disasters, defying race and gender stereotypes all the time.[10] Such community-based, grassroots initiatives offer a heartening counterpoint to the macro-economic and militarized techniques of globally deployed biopolitics; yet they too participate in global connectivity, utilizing the Internet effectively to mobilize international support and raise funds.

A second strategic position that trans-national sexual/health rights activists need to adopt to counter prevailing forms of biopolitics is that of broad-based, multi-issue alliances. At the forefront of such strategies should be building strong coalitions between sexual rights and public health advocates and economic and social justice groups that oppose distorted neo-liberal development policies and militarized forms of humanitarian intervention as well as corporate opportunism in disasters. When a feminist reproductive health clinic in Haiti embraces safe water projects as essential to its mandate, it conveys an analysis of reproductive and sexual health care, primary health care, and revitalized public infrastructure as all of a piece. When IGLHRC and SEROvie, in an admirable model of global-local collaboration, and Save the Children Fund, reveal the endemic ties between patterns of gender-based, homophobic, transphobic and paedophilic violence and military occupation, they show that militarism and sexuality are perversely and systematically connected. To become reality, these multiple, or 'polyversal' (Eisenstein 2004), visions cry out for similarly polyversal coalitions, joining global, regional and local organizations across many fields of activism.

Ultimately, single-issue politics have deadly consequences. Homophobia and transphobia become available as decoys to deflect from systemic as well as environmental crises precisely because they are seen, by advocates as well as opponents, as isolated and disconnected from the conditions of economic distress, militarism, occupation and structural violence. Conversely, the militarization of humanitarian relief efforts and the conversion of disaster zones into capitalist investment opportunities can become an 'economic and political order that presents itself as the only alternative' (Nyong'o 2011, 21) only when their catastrophic effects on gendered and sexual bodies disappear from view. Human rights campaigns and petitions to international human rights bodies might result in affirmative

[10] Following Katrina, the organization INCITE! Women of Color against Violence opened a women's health clinic to serve low-income and uninsured women of colour in New Orleans. In an article about their project, INCITE's leaders stress the need to 're-center women of color in the work of organizing in the context of' disasters. They urge the women most direly affected 'to develop our own community-based resources and responses to violence within our communities, as well as to violence targeting our communities, such as police violence and environmental racism. Centering the lives of women of color – because they are often the primary caregivers for both children and elders – might have helped us anticipate the way that children would be targeted in chaos and the way in which people with disabilities and elders might be trapped in nursing homes and hospitals' (Bierria and Liebenthal/INCITE! 2007).

pronouncements (like that of the Inter-American Commission on Human Rights), but their actual translation into effective policies and practices will rely on mobilized opposition groups ever vigilant against the obstructions of international and national power centres and ready, if necessary, to go to the streets. Opening up the panorama of these complex intersections is dangerous and, at the same time, the only way forward to a politics that moves beyond rhetoric and legalism toward social transformation.

Metropolitan Health in a Globalizing World

Ted Schrecker, Françoise Barten and K.S. Mohindra

Introduction

Even before the first worldwide increase in oil prices as a result of the Middle Eastern oil embargo, economic life in Caracas *circa* 1971 was dominated by the petroleum industry, which had made Venezuela's the least poor economy in Latin America. Production was, however, dominated by trans-national corporations like Exxon, Gulf Oil and Royal Dutch Shell, and what wealth remained in the country was highly concentrated. The remarkable Uruguayan-born essayist Eduardo Galeano wrote that: '[T]he city is ruled by Mercedes-Benzes and Mustangs', but '[w]hile the latest models flash like lightning down Caracas's golden avenues, more than half a million people contemplate the wasteful extravagance of others from huts made of garbage', some of which were slated for bulldozing so they would not be visible from the windows of the Caracas Hilton (Galeano 1992, 111–17).

Venezuela's oil boom of the 1970s was followed in the 1980s by the collapse of oil revenues. Policies of economic liberalization and associated increases in labour market income inequality further widened the gap between rich and poor described by Galeano, with extreme poverty in Caracas rising from 12.7 per cent in 1987 to 20.5 per cent in 1998. An increase in violence that began *circa* 1990 accelerated abandonment of public spaces by those who had the option; as fear became a dominant element in the daily lives of residents, the wealthy and parts of the middle class isolated themselves in private cars and gated and segregated residential enclaves (Lacabana and Cariola 2003; Briceño-León 2007). In other words, like metropolitan areas[1] throughout the world transformed by the

[1] We normally prefer the terminology of metropolitan areas rather than cities, and of metropolitan health rather than urban health, since cities and their surrounding peri-urban or commuter settlements tend to function as integrated systems. For example, Wallace and Wallace (1993) showed that diffusion of HIV infection from central cities to suburbs in metropolitan areas such as New York City and Washington, DC was plausibly explained

integration of national economies and societies into global-scale economic flows of trade, finance and (to a lesser extent) people, Caracas became a more deeply divided city – divided *inter alia* by income, housing tenure and quality, employment status and safety. Those transformations provide the raw material for this chapter.

What connects these phenomena with health? The Commission on Social Determinants of Health (2008) emphasized that disparities in health outcomes reflect conditions of life and work that make it relatively easy for some people to lead long lives in good health, and all but impossible for others. The unequal distribution of those social determinants of health, in turn, must be understood with reference to structural characteristics of the society in question, crucially including – in the words of a paper that inspired the Commission's conceptual framework – 'those central engines in society that generate and distribute power, wealth and risks' (Diderichsen, Evans and Whitehead 2001, 16). This insight has a long history in the study of health in cities, initially because of the miserable living and working conditions characteristic of cities during early stages of industrialization, as eloquently described in the English context by Friedrich Engels in 1845. At least according to one account of the public health response, specifically as it related to water and sanitation (Szreter 1997; see also Hein, Ngalamulume and Robinson 2010), it was driven by shared material interests in reducing both risks to health and illness-related threats to economic productivity. Environmental exposures of this kind continue as a major focus of urban health research (Satterthwaite 2007). As noted below, we argue that a more comprehensive understanding of exposures and vulnerabilities is relevant to understanding the pathway from globalization to health in metropolitan areas, and that globalization – as defined by Eyoh and Sandbrook (2003) – has changed the policy landscape in ways that drastically alter the incentive structures for actors like local politicians and national governments. The former may, for example, gain from deploying state power in order to clear land for higher-value uses; the latter may find their 'policy space' (Koivusalo, Schrecker and Labonté 2009) limited as they compete for foreign direct investment, seek to reduce capital flight and negotiate trade agreements on highly asymmetrical terms. These are stylized examples of complex processes, explored in more detail in the course of the chapter.

In 1960, only 30 per cent of the world's population lived in urban areas; *circa* 2008, for the first time, a majority of the world's population lived in such areas.[2] Sub-Saharan Africa and Asia are the only regions where this is not yet the case, although this pattern is expected to reverse itself by 2030 (World Health Organization and United Nations Human Settlements Programme 2010). By 2025, there will probably be 27 mega-cities (metropolitan areas with populations of more than 10 million),

by commuting patterns. Metropolitan areas sometimes in turn comprise elements of the circulation of people, goods and money in larger 'novel urban configurations' variously described as mega-regions, urban corridors or city-regions (United Nations Human Settlements Programme 2008, 8–11).

[2] Such statements must be viewed in the context of Satterthwaite's (2010) warnings against false precision, because of data limitations and multiple definitions of what constitutes an urban area, but the general trend is nevertheless clear.

21 of them located in low- and middle-income countries (LMICs) (Stephens 2011). Although the proliferation of mega-cities has no historical parallel, it is important not to infer that most metropolitan population growth in LMICs will take place in mega-cities: it won't, but rather in a much larger number of smaller centres (Montgomery 2008) whose size may confer both advantages and disadvantages in addressing challenges related to social determinants of health.

A United Nations task force estimated that at the start of this century more than 900 million people lived in slums,[3] 'most living under life- and health-threatening circumstances' that included one or more of: lack of access to improved water or sanitation facilities, insufficient living area, poor housing quality and insecure housing tenure. In the absence of decisive policy action, the number of people was projected to increase to 1.4 billion in 2020 (Garau, Sclar and Carolini 2005). Such hazards are, of course, only part of what has been called the metropolitan 'riskscape' (Morello-Frosch and Lopez 2006). Others include unhealthy working conditions, environmental exposures such as urban air pollution and risks of road traffic injury or 'road violence' (Chen and Berlinguer 2001, 37)[4] as well as hazards such as risk factors for non-communicable diseases that are not only place-related (Rao et al. 2011). Almost all these hazards are related to social position and concentrated at the lower end of socioeconomic gradients; place-related hazards, and their cumulative effects, may be substantially understated by conventional epidemiological study designs (Cummins, Curtis, Diez-Roux and Macintyre 2007).

We neither summarize the large descriptive literature on social determinants of health in metropolitan areas (Rossi-Espagnet, Goldstein and Tabibzadeh 1991; Kjellstrom and Mercado 2008; Vlahov, Boufford, Pearson and Norris eds 2010) nor undertake an inventory of the range of policy responses and the evidence for their effectiveness. Rather, we confine ourselves to arguing (a) that social determinants of health in metropolitan areas cannot be understood in isolation from globalization, immense cross-border asymmetries in power and resources, and consequent influences on social structure, metropolitan form and the policy priorities of governments (for an indispensable overview, see United Nations Centre for Human Settlements 2001); (b) that for the most part, the 'disequalizing' nature of those influences (Birdsall 2006), both within and across borders, is essential to understanding their effects; and (c) that explanations and policy analyses are best generated from a critical perspective that is multi-disciplinary, while foregrounding political economy on both a global and a metropolitan scale.

[3] A term we use with some trepidation, because of differences in how the settlements in question are described in different languages, sometimes using multiple terms, and because of the risk of stigmatizing 'cities in developing countries … as unmanageable social cauldrons that concentrate not only people but also poverty and social disorganization' (Martine, McGranahan, Montgomery and Fernández-Castilla 2008, 4). However, the term is in widespread international usage, notably by UN system organizations, and has no convenient but more nuanced English equivalent.

[4] The annual death toll worldwide from road accidents (an estimated 1.2 million) is roughly twice the annual number of homicides (600,000).

At the same time, the influence of globalization on social determinants of health in metropolitan areas can never be predicted in a crudely deterministic fashion. That influence is invariably mediated through distinctive local and national situations, political institutions and public policies – including, in most cases, policies that accelerated economic integration, but also in some cases policies designed in an effort to resist it or mitigate its consequences.

Globalization, Neo-Liberalization and Livelihoods

In 2000, Galeano perceptively characterized globalization as 'a magic galleon that spirits factories away to poor countries' (Galeano 2000, 166). As long ago as 1977 Fröbel, Heinrichs and Kreye (1980; original German publication 1977) described a New International Division of Labour involving relocation of labour-intensive manufacturing operations from western Europe, in particular, to Export Processing Zones (EPZs) in LMICs that were then being promoted by United Nations agencies as a solution to the problem of unemployment. In the intervening years, reorganization of production across multiple national borders in search of lower wages and highly flexible employment relations accelerated and became more complex (Dicken 2007) thanks to the lowering of trade and investment restrictions; reductions in the cost of information processing, telecommunications and containerized transportation; and the approximate doubling of the world's labour force as India, China and the transition economies were drawn into the global marketplace (see generally Schrecker 2009a).

This pattern has had profound effects on the distribution of access to livelihoods in metropolitan areas. In the high-income countries, especially in North America, the metropolitan-scale effects of de-industrialization (Knox 1997; United Nations Human Settlements Programme 2003, 34–43) were dramatic. Well over half the manufacturing jobs in US cities such as Chicago, Philadelphia and Detroit disappeared starting in the 1970s (Abu-Lughod 1999, 323–4; Hodos 2002, 365). The social and health consequences, including extremes of abandonment in urban wastelands like Detroit (McGreal 2010; Seelye 2011) and earlier transformations of urban economies such that economic opportunities were dominated by the drug trade (Bourgois 2003, 50–2, 114–73), are still playing out – notably, although the point is beyond the scope of this chapter, in extraordinarily high rates of incarceration and penal supervision among urban African-American populations. De-industrialization is also viewed by at least some observers as a contributor to the concentration of social disadvantage in the suburbs of Paris (Montagné Villette 2007).

Outside the high-income world, unemployment in Mumbai 'more than doubled' between 1981 and 1996, while informal employment and self-employment increased substantially – a consequence, in part, of the decline of labour-intensive textile production in the face of international competition (Patel 2007). In São Paulo and Rio de Janeiro, hundreds of thousands of manufacturing jobs disappeared between 1985 and 2003, as the country's economy was opened to

international markets and casual or precarious labour became the norm (Perlman 2005, 21; Buechler 2006). In Johannesburg, informal employment increased as a percentage of total employment from 9.6 per cent to 16 per cent in just three years (1996–1999). In 2001 the city's official unemployment rate was 37 per cent (Mabin 2007), employment having been all but abandoned as a policy concern by accelerated post-apartheid policies of neo-liberalization. In Ghana, widely cited as one of the success stories of global economic integration, a decade after the start of a structural adjustment programme in 1983 impressive economic growth rates were accompanied by a decline in overall formal sector employment of more than 50 per cent (Songsore 2008). 'Poverty and marginality within the city [had] become structural with a growing number of youth who have nothing to offer to the globalizing and liberalized economy' (Songsore and McGranahan 2007, 136) – a description that could apply to most large metropolitan areas in LMICs, and indeed post-de-industrialization to a number in the high-income world.

The World Bank, normally a reliable enthusiast of globalization, concedes that the operation of labour markets will increase economic inequality in most of the low- and middle-income world, leading to the emergence of a global middle class but leaving the so-called 'unskilled poor' even farther behind (World Bank 2007, 67–100), as has already happened in the high-income world (Nickell and Bell 1995). Intra-metropolitan impacts must be understood by viewing the global reorganization of production and employment in terms of an increasingly fine-grained division among integrated, precarious and excluded forms of employment (Cox 1999) within national boundaries, within the boundaries of a single metropolitan area and sometimes within the same enterprise. Thus, Janice Perlman found in a four-decade study of Rio de Janeiro that:

> the *favelados* are not marginal, but inexorably integrated into society, albeit in a manner detrimental to their own interests. They are not separate from or on the margins of the system, but are tightly bound into it in a severely asymmetrical form. They contribute their hard work, their high hopes, and their loyalties, but do not benefit from the goods and services of the system. (Perlman 2005, 18)

Portions of the US economy could not function without an exploited, and largely invisible, stratum of low-wage, insecure, disproportionately female and frequently undocumented workers.

State Complicity and the Interpenetration of Core and Periphery

Such basic restructuring of labour markets and social relations must be situated in the historical context of a neo-liberal project of reorganizing economies and societies

along market lines (see for example Robinson 2003, 147–294; Ward and England 2007; Somers 2008, 73–92; Wacquant 2009, 304–14). Probably the most conspicuous and familiar elements of the project as it affected LMICs were structural adjustment conditionalities designed by the International Monetary Fund and the World Bank as the price of loans enabling recipient countries to reschedule their external debts, rather than risking default and catastrophic exclusion from international credit markets. 'An alliance of the international financial institutions, the private banks, and the Thatcher-Reagan Kohl governments was willing to use its political and economic power to back its ideological predilections' (Przeworski et al. 1995, 5), but also to protect creditor interests and open up new markets and investment opportunities for home-country trans-national corporations (TNCs). The relative significance of these motives in specific cases is difficult to discern, and in any event the effort is unnecessary for our purposes.

In an unusual effort to connect the neo-liberal project with its consequences for metropolitan areas and their residents, a 2003 UN Habitat report on *The Challenge of Slums*, drawing from 29 city case studies, concluded that '[t]he main single cause of increases in poverty and inequality during the 1980s and 1990s was the retreat of the state' from a variety of redistributive policies (United Nations Human Settlements Programme 2003, 43; see generally 43–6 and Davis 2006, chapter 7). In other words, rather than compensating for market-driven economic inequalities, governments adopted policies that exacerbated them – whether in direct response to conditionalities or as an effort to pursue foreign investment in the context of an emerging and carefully cultivated ideological consensus that neo-liberal policies were the only ones that 'worked' (see for example Babb 2002, chapter 1). They then, for many of the same reasons, dismantled existing social protections that might have mitigated the consequences (Babb 2005).

Predictably, in some cases neo-liberalization and the associated destruction of livelihoods have added to pressures for migration, both internal and international, even as urban employment opportunities to meet the demand from internal migrants are likely to be insufficient because of de-industrialization, the imposition of domestic austerity measures and the shift to more capital-intensive production technologies. In an unusually clear example, the desperation and drug-related violence that afflicted northern Mexico's cities, in particular post-2008, can be attributed to a destruction of agricultural livelihoods in the southern part of the country as a result of reduced government support for agriculture and post-NAFTA imports of subsidized US corn; austerity programmes and declines in purchasing power associated with two financial crises (1982 and 1994) and the currency devaluations and IMF conditionalities that followed; and the dubious pull of maquiladora employment, even with low wages and minimal working conditions for the predominantly female labour force (Soederberg 2001; Landau 2005; de Ita 2008; Thomas 2009; Bowden 2010). As journalist Charles Bowden writes: 'The main reason a US company moves to Juárez [or, we would add, out of Juárez, as in the case of hundreds of thousands of *maquiladora* jobs relocated to China in the first years of the twenty-first century] is to pay lower wages. The only reason people sell drugs and die is to earn higher wages' (Bowden 2010, 99); a 'good' *maquiladora*

manufacturing wage in 2011 was USD 8–16 *per day* (Archibold 2011a) while prices are not substantially lower than those in the US.

Saskia Sassen points to '[t]he growing immiseration of governments and whole economies in the Global South' (Sassen 2008, 458) associated with structural adjustment programmes as a motivation for international migration. Currency devaluations that accompany financial crises, which have increased in number and severity as a consequence of financial de-regulation add to the appeal of hard currency remittances as an element of household survival strategies. *Circa* 2010, remittances were worth nearly three times the annual value of public development assistance (Mohapatra, Ratha and Silwal 2010). Those deprived of livelihoods in their home countries embark on what Sassen calls trans-national 'survival circuits'. Some such circuits involve human trafficking or migration from one LMIC to another, as in the case of Zimbabwean migrants who face grim prospects in the cities of South Africa. Many others terminate in large metropolitan areas where a concentration of affluent professionals and managers attached to the activities of major corporations generates a parallel demand for legions of low-wage, casualized (disproportionately female and non-white) workers engaged in the indispensable and often invisible work of cleaning homes and commercial buildings, preparing and serving restaurant meals, landscaping, driving taxis and in many cases providing child and elder care. In the Netherlands, women workers from the Philippines often are well-educated – some even have completed higher education (Morales 2011), but have been forced to emigrate due to the lack of employment opportunities in the Philippines: they can earn more in the Netherlands as a domestic worker than as a hospital manager in their home country. Indeed, as the Philippines has positioned itself as a labour export country, people are trained for jobs abroad; since the children of the women in question have no right to higher education in the Netherlands, they often follow the same employment path.

A new set of 'profit-making or revenue-making circuits developed on the backs of the truly disadvantaged' (Sassen 2002, 256) emerges, exemplified by human trafficking, but also by the rise of 'blue-collar millionaires' in New York City who built a fortune in the building cleaning industry by busting unions and trying to hire as many part-time workers as possible to cut labour costs; one cheerfully admitted in the *New York Times* to shorting a worker's hours at the end of a 60-hour week (Winerip 1998). In the United States, such tactics are facilitated by the fact that an estimated 11 million unauthorized residents comprise an economically important reservoir of exploitable low-cost labour whose subordinate status in the workplace and the society as a whole is enforced by the lack of legal protections such as minimum wage laws that are routinely available to citizens and by constant risk of arrest and deportation (see for example, Robinson 2003, 270–74; Deeb-Sossa and Bickham Mendez 2008; Hellman 2008;Smith and Winders 2008). In a study of undocumented workers, Judith Adler Hellman observed a New York 'basement shared by eighteen single men, an unheated garage that is home to two Mexican families, an abandoned tractor trailer … and an abandoned tugboat and barge, both vessels half in and half out of the water, and each providing housing to another two or three men' (Hellman 2008, 159). Approximately half of these unauthorized

residents came from Mexico, with another substantial proportion emigrating from Central America where an especially brutal period of neo-liberalization, including active US support for homicidal military governments and insurgencies, led to the killing of at least 200,000 people and an exodus of many times that number (Robinson 2003, 275–7). 'If a similar catastrophe struck the United States in proportion, two and a half million North Americans would die and 10 to 20 million more would be driven from their homes' (La Feber 1993, 362).

The spatial dimension of such processes is perhaps best understood in terms of the 'hyperdifferentiation of space', as described by Grant and Nijman (2004) in India and Ghana and, within those countries, in metropolitan Mumbai and Accra. The concept refers to the process by which, as a result of the lowering of barriers to cross-border financial flows and the consequent emergence of new opportunities for alliances between foreign and domestic investors, some spaces within the metropolis become immensely valuable, for example as residential locations (the process of gentrification), while others that are very close in territorial terms, along with those who inhabit such spaces, are at least temporarily of limited value and policy interest. Grant and Nijman note, for example, that as a result of investment by TNCs the central business district of Nariman Point, in Mumbai, became 'the most expensive in the world', with a parallel increase in residential real-estate prices driven partly by non-resident investment – this in a low-income country, and in a city where it was contemporaneously estimated that '[m]ore than half' of Mumbai's 12–16 million people live 'in slums and on pavements or under bridges and near railway tracks' (Patel 2007, 76). Subsequent work on Accra (Grant 2009) describes a pattern in which international investment reconfigured the fabric of the metropolis through creation of new business and residential districts, including a number of gated communities, unaffordable for the overwhelming majority of the city's residents, but affordable for some entrepreneurial Ghanaians living abroad and for domestic rental investors.

The 2003 *Challenge of Slums* report connected the magnification of economic inequality with contests over space in countries rich and poor alike, noting that 'the prime resources of the city are increasingly appropriated by the affluent. And globalization is inflationary as the new rich are able to pay more for a range of key goods, especially land' (United Nations Human Settlements Programme 2003, 43), simply outbidding the poor for desirable locations. Thus, in Nairobi and Dhaka, low-income residents who represent half or more of the available population are crammed into 4–5 per cent of the metropolises' available land area (United Nations Human Settlements Programme (UN Habitat) 2008, 54). The planned demolitions described by Galeano in the excerpt with which we began the chapter are an early, small-scale example of a phenomenon that is now widespread, driven by powerful incentives to displace the poor and otherwise marginal in favour of 'higher-value' land uses attractive to domestic elites and foreign investors alike and instantiating a process that one leading analyst of neo-liberalism has described as 'accumulation by dispossession' (Harvey 2003).

In the early 1970s, more than 100,000 people were forcibly removed from *favelas* in Rio de Janeiro as 'new construction technologies … made it possible to build

luxury condominiums on the now-valuable slopes rising above the city' (Perlman 2005, 12). Indian governments have been actively clearing out shantytowns in favour of commercial offices, higher-priced housing and technoparks (Appadurai 2000; Banerjee-Guha 2009; Bhan 2009), with 700,000 to 1.8 million slum-dwellers having been displaced in Delhi alone between 1997 and 2007 (Ghertner 2011, 505); Beijing displaced 1.5 million people in order to construct facilities for the Olympic Games (Fowler 2008). When the Commission on Social Determinants of Health met in Nairobi in 2006, and Commissioners were taken on a tour of the Kibera slum district (home to as many as a million Kenyans, depending on the estimate cited), a spokesman for the Kenyan government 'outlined the proposal for the sale of Kibera land, which, being close to the centre of town, was commercially valuable. This value provided a potential source of revenue for the government to improve housing conditions for the Kibera slum-dwellers. He outlined the proposal to use the revenue to house the Kibera squatters further out of town on cheaper land' (Commission on Social Determinants of Health 2006, 26). As of 2011, this proposal for forced eviction had fortunately not been acted upon; the fact that it could be made seriously by a public official is in itself revealing.

The emergence of real-estate investment as a basis for capital accumulation is critical to understanding globalization's influence on social determinants of health in the metropolitan frame of reference. Familiar to metropolitan residents in much of the high-income world (see for example Hackworth 2007, 77–149; Moody 2007), the pattern has now become trans-nationalized. In cities as diverse as Prague, Accra and Bangalore, the real-estate business has attracted a variety of investors, primarily (although not entirely) from outside the country, to development projects oriented to the needs of TNCs, wealthy expatriates and the very top of the domestic income and wealth distribution (Cook 2008; Grant 2009, 18–89; Goldman 2011). The Bangalore case is especially interesting: although Bangalore is known as the epicentre of India's information technology (IT) industry, Goldman (2011) shows that real-estate has become more profitable, especially for large-scale foreign investors, but also for the IT industry itself. The state has provided extensive support, through offers of subsidized land and the shifting of power to largely unaccountable parastatal development agencies financed by the Asian Development Bank and the World Bank. A further layer of influence involves 'citizen action groups … led by ex-IFI and Wall Street professionals' (563), which superficially increase political accountability, but in practice reinforce the interests of investors rather than existing working class and agrarian constituencies.

'Speculative urbanism' (in Goldman's phrase) demonstrates with special clarity that globalization must be understood in terms of new and shifting alliances among international and domestic investors, wealthy expatriates, as well as segments of the expanding 'middle class' beloved of the business press and the World Bank, and the state at various levels. These alliances are often determinative of the exclusionary effect of globalization at metropolitan and national scales: the new development strategies have little or nothing to offer the working-class majority, or smallholders who have had their land expropriated at artificially low, state-determined prices or their agricultural livelihoods wiped out by industrial

pollution. A similar bias is evident in a closely related phenomenon: planning priorities that emphasize roads for the vehicles of a privileged few (see for example Leaf 1996; Alcantara de Vasconcellos 1997; Pucher, Korattyswaropam, Mittal and Ittyerah 2005), often on the basis that such 'world-class' infrastructure is necessary to ensure the attractiveness of high-end residential and commercial real-estate. Thus in Bangalore's latest plan, 'two-thirds of the money will be allocated solely for road building, including an imagined ten-lane highway … [t]his in a city where more than two-thirds of the population walks, rides a bike or scooter, or takes public buses to work, according to city transport engineers' (Goldman 2011, 570) rather than affordable public transportation that would serve a much larger number of people. When metropolitan areas are planned around the car, social exclusion is literally cast in concrete, and the risk of illness related to air pollution and of road traffic injury among pedestrians and cyclists may actually be increased (see for example Rodgers 2007 on Managua, where the use of highways as ways of connecting nodes of elite residence and isolating them from the fabric of the rest of the metropolis is especially pronounced).

Moving Beyond the Divided City?

Teresa Caldeira's *City of Walls* (about São Paulo, with an afterword on Los Angeles) is one of the most thorough and nuanced works of contemporary urban anthropology. São Paulo is often cited as an example of a divided city (Fundação Sistema Estadual de Análise de Dados 2010) where, despite nationwide reductions in Brazil's historically high levels of income inequality, millions live in *favelas* that may adjoin hyperopulent apartment complexes, and the seriously rich commute by helicopter (Phillips 2008). Some of the walls with which Caldeira is concerned are metaphorical, but her focus is on the literal 'fortified enclaves' that are favoured as a refuge from the violent crime feared by the wealthy and expanding portions of the 'middle class'. The book begins with chilling excerpts from an interview with a former teacher, married to a real-estate agent. She laments the decline of her neighbourhood, describes her family's own experience of a violent robbery and says of her husband: '[Y]ou don't know what he says. When he sees a cortiço, a favela, he says that a bottle of kerosene and a match would solve everything within a minute' (Caldeira 2000, 24).

The walled city in various forms is becoming familiar as a literal description of enclaves in metropolitan areas rich and poor alike, whether individual homes and buildings or gated communities with private security and privately purchased services. The walled city also functions as metaphor for an 'urban divide' now recognized as a critical social policy issue (United Nations Human Settlements Programme 2008), which may involve walls both visible and invisible. In the latter category are characterizations of the urban poor and residents of certain quarters as intrinsically criminal or parasitic. Such views were frequently expressed by Caldeira's respondents, are often magnified by sensational media coverage, and

serve to legitimize non-fulfilment of state obligations to provide adequate shelter or protection from misuses of public power against them (Harvey 2008; Bhan 2009). In post-millennial India, informal settlements and evictions – hardly new phenomena, although evictions were historically accompanied by some protection of rights, such as a resettlement policy – have been recast, as witnessed by the growing influence of the courts and the urban middle class (and the accompanying silence of municipal governments) in defining what constitutes the 'public interest' (Ramanathan 2006; Bhan 2009). Slum demolitions have been legitimized, and residents characterized as criminals devoid of rights, including the right to resettlement. Invisible walls may also contribute to labour market polarization and cycles of social exclusion, as illustrated by young Jamaican men's observations about the difficulty of finding and keeping a job with a downtown 'Kingston 12' address, in a Jamaica economically debilitated by a homegrown structural adjustment programme that followed an ill-timed opening of its domestic markets (Robotham 2003), and by Perlman's finding that the stigma attached to *favelas*, and not any physical characteristic, is the main factor separating them and their residents from the rest of the city (Perlman 2005, 10). Such cases exemplify what Loïc Wacquant (2007, 67) calls 'a blemish of place' attached to territories where 'advanced marginality'[5] is concentrated.

Globalization contributes to spatial segregation in metropolitan areas in several ways (see generally United Nations Human Settlements Programme 2003). Perhaps most directly, the combination of increasing inequality of market incomes and the retreat from redistributive policies means that bidding wars for metropolitan space and the ability to control and profit from its uses almost inexorably drive the poor, the working class and the otherwise vulnerable to a periphery that may or may not be defined in territorial terms, although often it is. Typical in this respect are the suburbs of Paris and other French cities,[6] where post-war public housing initially intended for a diverse clientele was vacated by the better off in response to policies of subsidizing home ownership. Gentrification as a consequence of Paris' increasing importance as an international financial centre further limited available housing options. Thus, some suburbs are now home to a disproportionate number of non-European immigrants who face extremely high levels of unemployment – partly because of limited qualifications, partly because of employment discrimination – and hostile racial attitudes that reflect France's colonial legacy in northern Africa and strongly assimilationist political culture. Resulting levels of hopelessness contributed to riots that erupted in 2005. In LMICs, as urbanist Mike Davis has put it: 'Regardless of their political complexions … most Third World city governments are permanently locked in conflict with the poor in core areas' (Davis 2006, 99).

The urban divide's direct effects on living conditions are compounded by its consequences for the politics of public health. Historically, support for policies to improve social determinants of health in cities often arose as a consequence of

[5] Which for Wacquant is directly connected to the restructuring of global capitalism; see for example Wacquant 1999; Wacquant 2009.

[6] This unavoidably incomplete discussion draws on Dikeç 2007; Montagné Villette 2007; Body-Gendrot 2009; Mitchell 2011.

propinquity: it is harder for the privileged to avoid health hazards, even though these tend to be concentrated among the poor and marginalized. When the relatively affluent 'secede', in the words of former US Cabinet secretary Robert Reich (1991), whether to the suburbs (as in the United States) or to enclaves within the urban core where services and security are privately provided (as with many of Caldeira's respondents), the political significance of propinquity diminishes. Private purchase of services, individually or by a group of the similarly situated (for example in private residential developments or condominia), emerges as preferable to contributing to a pool of resources that can be drawn on by diverse 'others', who may well be perceived as undeserving.

Fear of crime and violence is a key motivation for both fortification and secession. Even leaving aside larger questions of 'structural violence' (Farmer 2004) in the operation of global economics and geopolitics, only a superficial account of the connections between globalization and urban violence – in many settings, a substantial contributor to overall mortality – can be provided here. One connection involves the social disorganization and desperation that may be entailed by high levels of economic inequality and low levels of hope among the underemployed and dispossessed, although it is imperative at all costs to avoid caricaturing or pathologizing such 'others'. Another involves interactions between economic inequality and fear of crime that lead to vicious cycles in which public spaces are either privatized or abandoned, used only by those with no other option and sometimes 'governed' not by official institutions but rather by criminal gangs (Pearce 2007; Perlman 2009). However, as economic restructuring pushes a growing proportion of the working class into the informal economy, some forms of crime may emerge as important routes to livelihood or survival strategies. In response, hardening attitudes on the part of the more affluent (exemplified by Caldeira's respondent) may include widespread support for official violence by police or extrajudicial action by death squads as part of the struggle to define legitimate uses, and users, of urban space (Scheper-Hughes 1998; Wacquant 2008). These dynamics have in common that it is not the affluent who are most at risk, but rather those without means of escape (McIlwaine and Moser 2007).

Consider an example drawn from the experience of one of us (FB) who has worked with colleagues in El Salvador since 1992 (with the public university and community-based health NGO's, and since 2010 with the Ministry of Health). In March 2011, FB met Maria (a pseudonym), who lived with her six children in one of the neighbourhoods of San Salvador, the capital city and home to a quarter of the country's 6–7 million people, where walls both visible and invisible separate people living in settlements such as Quiňonez or La Fosa from the inhabitants of gated communities such as San Benito. Maria's oldest son had been killed in 2010 by the youth gang that controlled the barrio. She had no means to leave the barrio and, for the sake of her other children, every day as she walked from her house had to greet the man she knew was responsible for the murder of her child. Beyond the stress and anxiety related to living in a poor settlement, the impact on mental health is difficult to measure or to capture in words.

By way of a conclusion that brings together some of the threads linking globalization to health in the metropolis, we expand on the admittedly extreme Salvadoran case of how past patterns of economic exploitation and pursuit of geopolitical advantage (notably during the Cold War era) have been embedded in new economic asymmetries and trans-national flows and linkages. As mentioned earlier, Central American civil wars in the 1980s led to an exodus from the region to the United States that included more than 1 million Salvadorans, fleeing a war that 'for all its Cold War trappings … was essentially a textbook case of class warfare – pitting the interests of the US-supported business elite against those of the poor' (Wallace 2000, 49). During the war, the US not only supplied vast amounts of military aid, but also supported the business elite in establishing a right-wing think tank that 'played a critical role in bringing together a New Right nucleus that would go on to assume state power in 1989' (Robinson 2003, 90) and, among other activities, would establish and promote low-wage EPZs targeting foreign corporations in the garment industry (Kernaghan 1997; Robinson 2003, 87–102). During the war, while per capita income dropped by one-third, some observers note that the concentration of wealth in the hands of 14 families that had long been a feature of Salvadoran society actually increased (La Feber 1993, 354). In the aftermath of conflict, economic decline and ecological devastation, Salvadorans themselves became a major export: in 2008–10 the annual value of remittances was equivalent to 60 per cent of export earnings and 17 per cent of GNI (Ratha, Mohapatra and Silwal 2010). Many of the dispossessed were children when they emigrated, with or (sometimes) without their parents, to destinations like inner-city Los Angeles that are themselves poor, de-industrialized and racially tense; because of their undocumented status, many were limited to seeking employment in sweatshops or the informal economy.

An overwhelming majority of (documented and undocumented) immigrants, regardless of origin, were and are law-abiding. However, a small minority of Salvadorans formed gangs in Los Angeles, partly as a source of livelihood and partly as a survival tactic in an already violent environment; two in particular, Calle 18 and Mara Salvatrucha 13 (MS13), rapidly expanded. At the same time, incarceration rates in the United States were rising dramatically, both for criminal offences and (after changes to immigration law in 1996) for immigration violations; the legal changes also facilitated rapid deportation of undocumented or imprisoned immigrants, and mass removals quickly followed. Thus if migration and remittances are the 'front end' of survival circuits operating between El Salvador and the US, the 'back end' involves disenfranchised young Salvadorans who find themselves unwillingly returned to their homeland, where economic opportunities are limited: for many returnees in the Salvadoran labour market, call-centre jobs were the desirable end of the spectrum. Often raised in the US, without any knowledge of the language, they find themselves in *favelas* in an unfamiliar country and culture, stigmatized because of tattoos and clothes, while family members and close friends remain in the US. The gang easily becomes a substitute for community and family support. Often new attempts to emigrate follow, as many youths return to the road

of the *Sueño Americano* (American Dream) even as it has largely ceased to exist within the borders of the United States.

El Salvador has the highest official homicide rate in Latin America, and as early as 2001, it was noted that 'more Salvadorans [had] been killed by criminal violence during the decade following the peace accords on New Year's Eve of 1991, than died during the last 10 years of the war' (Bourgois 2001, 19). The politics of crime research and policy are such that extreme caution must be used in citing estimates of the extent of criminal activity such as police claims that there are 10,500 gang members in El Salvador and 69,000 in all of Central America (Serrano-Berthet and Lopez 2011, 15). However, it is beyond dispute that in post-war El Salvador, many people lived with the trauma associated with the experience of political violence while 'the silent brutality of economic oppression' continued unabated (Bourgois 2001, 17) and the country's location made it a convenient trans-shipment point for drugs. Repressive, US-style *Mano Dura* ('Iron Fist') crime control and policing adopted by the right-wing National Republican Alliance (ARENA) government that held power until 2009 – arguably continuing oligarchic rule by other means (Wolf 2009) – achieved little except to legitimize state violence and the politics of fear. Indeed, until October 2010, the historical city centre of San Salvador was controlled by one of the youth gangs. While local informal vendors and taxi drivers had to pay a weekly tribute for protection, under a newly elected (in 2009) social democratic national government the Ministry of Health – located in the same area – developed policy for an ambitious rebuilding and strengthening of the public health sector (Rodríguez, Espinoza and Menjivar 2009) incorporating new approaches for inter-ministerial coordination to address common priorities. This can be regarded as a hopeful development: the policy is 'based on the concept of an explicit commitment to recognizing health as a public good and a fundamental human right that should be guaranteed by the government' (Rodríguez et al. 2009, 3). At the same time, implementation remains dependent on the precarious politics of collaboration between the Ministry of Health and metropolitan San Salvador's 14 municipalities, and on a donor community that has not yet acknowledged the specificity of health in metropolitan areas and the need for a comprehensive approach to addressing the underlying causes of health inequities. El Salvador's recent history and the Ministry's own urban surroundings serve as a sobering reminder of the challenges confronting responses to the health and social challenges associated with globalization.

Global Health Governance and the Intersection of Health and Foreign Policy[1]

Wolfgang Hein and Ilona Kickbusch

Introduction

The discourse on global health governance (GHG) arose around the turn of the Millennium as a response to the new dynamics of the global health system. These dynamics were characterized by growing challenges to the management of health issues associated with trans-national as well as inter-sectoral interdependence, with an increasing pressure to address health problems in developing countries (whether seen as security problems or as a matter of human rights) and with a significant increase and plurality of health actors. These developments were accompanied by important changes of the institutional form of international health policy leading in particular to new hybrid organizations and a new relationship between health, foreign and development policies. The driving force was a new global context and a dominance of neo-liberal policy which had led to a crisis of multi-lateralism in the 1980s and 1990s.

While until the mid-1990s international health was still basically conducted by the World Health Organization (WHO) and a few other international organizations – including a strong role for the World Bank in health cooperation with developing countries – the situation changed rapidly in the following years. Non-state actors such as civil society organizations (CSOs), large foundations and trans-national companies greatly increased their involvement in global health, and new types of hybrid organizations were created. The new big players such as the Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM, launched in 2002), the Global

[1] We are very grateful to Margarita Ivanova, Research Associate at the Global Health Programme in Geneva, who helped us very much, not only with the usual check of quotations, footnotes and bibliography, but also contributed to the literature review and to the discussion of a number of questions treated in this chapter.

Alliance for Vaccines and Immunization (GAVI, launched in 2000), Bill & Melinda Gates Foundation (BMGF, founded in 1994; health programme since 1999) and the proliferation of a multitude of smaller and medium-size actors have significantly changed the agenda and the balance of power in the global health arena: through their own financial and expert resources, but also as attractive partners for national governments to by-pass difficult processes of reconciliation of interests in inter-governmental organizations. More recently, international political clubs like the Organisation for Economic Co-operation and Development (OECD), the G7/8 and now the G20 are also active in international health diplomacy.

At the origin of these processes are not only the growing opportunities for private actors to organize trans-nationally, due to globalization, but also the ongoing critique of many multi-lateral organizations – including the WHO – for excessive bureaucratization, politicization and a lack of concrete results since the late 1980s (Siddiqi 1995). Not only did private actors make use of the growing opportunities in the trans-national space to position themselves as better problem solvers through new initiatives of their own, but states themselves developed strategies to sideline the multi-laterals in order to link programmes to their foreign policy interests. Growing health problems called for new solutions on a global scale, and the creation of large global health initiatives in the form of hybrid organizations arose as an important strategy of industrialized countries to change the institutional framework for tackling global health problems together with other actors. The age of market multi-lateralism had begun.

Certainly, at the turn of the century a rediscovery of the role of WHO as a body that can adopt binding health treaties was set in motion, in particular due to the acceptance of two important international agreements in health: the Framework Convention on Tobacco Control (FCTC) in 2003 and the (new) International Health Regulations (IHR) of 2005. But this re-confirmation of one central and mostly neglected component of WHO's constitutional role does not imply a return to traditional multi-lateralism. The rise of GHG (in contrast to the narrow confines of a multi-lateral state-based model, which has been called 'international health governance'; see Berridge et al. 2009) has transformed global health into a field of complex and dynamic relationships between governments, multi-lateral institutions and national and trans-national private actors, and correspondingly shifted the intersection between global health and national policies from health ministries with a more technical orientation towards foreign policy considerations linked to human rights, development policy, trade and security issues.

Thus a new system of GHG has emerged which is characterized by: (a) an increasingly diverse group of actors; (b) their changing roles in governance processes; and (c) increasingly complex interactions at multiple levels. The proliferation of actors has led to a widespread concern about a lack of coordination, a waste of resources through duplication and inconsistent design of activities.[2] This

[2] In most of the recent literature of GHG these concerns are expressed either in a more general form (Ng and Ruger 2010) or related to specific strategic proposals (Kickbusch, Hein and Silberschmidt 2010).

chapter discusses the question of coordination, taking up analytical concepts as well as strategic perspectives; it rejects the view underlying many commentaries that GHG is just a big hodge-podge of organizations.[3] We insist that the distinction between private-for-profit actors, civil society actors and public institutions and their roles and mandates is critical if we are to explore matters of legitimacy and accountability.

In the following sections we summarize basic developments and characteristics of GHG. Section 2 will look at the rise of international health governance and its recent transformation under the impact of globalization. Global (health) governance and global politics link to the processes of globalization, which have been described as the 'intensification of cross-border flows of goods, services, finance, people, and ideas' (Held et al. 1999). Responses in many areas of global concern such as the environment, transport, communication and also health have led to rule- and norm-building processes at the global level and within international organizations. This is complemented by the increasing trans-national interconnectivity of people, communities, companies and countries which has led to a density of trans-national social relations supported by spatial, temporal and cognitive shifts. Emerging common identities based on characteristics other than nationality – for example 'People living with HIV/AIDS' or among people in civil society networks fighting for health as a human right – create a new political space occupied by many trans-national communities with shared norms and political goals. As we understand global health to encompass these global processes and to contribute to them we base our analysis of GHG on the following definition: *global health* refers to those health issues that transcend national boundaries and the reach of governments and call for actions on the global forces and global flows that determine the health of people (based on Kickbusch in Kickbusch and Lister 2006). Section 3 presents the basic features of the arising landscape of GHG and links them to the focus, the legitimacy and the complexity of actors as well as the role of WHO.

In section 4 we argue that the transformation of GHG cannot be seen as a zero-sum game in a redistribution of political power. Rather, it reflects a complex reconfiguration of traditional international relations into a system of global politics, where not only new non-state actors but also rising states gain in influence. Global health issues have been transformed from matters of inter-governmental negotiation of a mainly technical nature into issues of global significance for many sectors in many political venues. From this follows the broad political mobilization of many different types of actors, both state and non-state. Recently – following the report of the Commission on the Social Determinants of Health – some authors introduced a differentiation between a more narrowly defined GHG and global governance for health (GGH) (Ottersen et al. 2011), which we

[3] The best example is by Severino and Ray (2010, 5) who call the 'development landscape' an 'institutional jungle'. Zacher and Keefe stress that IGOs 'have been joined by a plethora of nongovernmental … organizations as well as hybrid partnerships' (2008, 138).

will not pursue in this contribution.[4] As all these actors affect global health in a wide variety of ways (some also in a negative way, as the defenders of strong intellectual property rights in the field of medicines), the practice of GHG has become complex and fragmented but also flexible and creative and is linking global health to a broad field of global governance processes. In section 5 we address the changing constellations between (trans-national) non-state actors, nation states and international organizations that have been one of the main challenges of global governance analysis. From most of the GHG literature there is just a strong call for effective coordination, very similar to the perspective of the Paris Declaration process in development cooperation. Others maintain that the anarchical character can be seen as an arena of broad mobilization and social self-organization towards a broadly accepted goal of 'improving global health'. We propose that the concept of nodal governance helps overcome this division by linking the idea of self-organization with political spaces of distributed power.

These actions take place at all levels of governance, including national and local politics. Global politics is not only a global-level phenomenon, but a complex multi-level system. Political institutions at all levels demonstrate a high degree of resilience to coordination and national policies also find coordination for global action difficult. Due to the processes of globalization, however, public institutions at the national level are required to balance their role as the primary setters of binding rules and authoritative decision-making with concurrent collective action at the international level. Indeed in the face of global challenges the loss of sovereignty comes not from joining with others but from refraining to do so (Kaul and Gleicher 2011). Private actors are well organized to operate on the global scale and are thus in a position to circumvent national policies; in consequence the requirement for international rule-making becomes stronger. It also leads to new types of trans-national alliances, for example, governments of developing countries allying themselves with CSOs to push for the Doha Declaration. Thus, in section 6 we identify some important implications for the role of foreign policy in global governance systems.

- Foreign policy can no longer be simply seen as responsive to *internal* pressures (interests and attitudes of particular groups of actors) and *external* challenges (mostly through the foreign policies of other nations), as processes of 'global socialization' make it more and more difficult to clearly distinguish between internal and external actors and challenges (globally

[4] In this context, global health governance encompasses 'actors whose primary intent is to improve global health, and the rules, norms, and processes that govern their interaction' while 'global governance for health' refers to the interactions between health and 'global governance processes outside the health sector, such as those relating to security, trade and investment, environment, education, agriculture, and migration, [which] increasingly affect health both negatively and positively' (Ottersen et al. 2011, 1612). In December 2011 *The Lancet* – University of Oslo Commission on Global Governance for Health – began its work, concentrating especially on these issues.

operating enterprises; trans-national civil society and norm-building processes).
- Thus, the role of foreign policy is changing. In sectoral affairs like health or environment foreign policy constitutes a gateway between global (not only inter-governmental) and national politics. For the nation state to play its role as a focus of legitimate decision-making, national politics need to be informed about options at the level of GHG (including possible alliances with non-state actors). This implies sector-specific links to other ministries ('health foreign policy').

When 'national interests' are more and more linked to global governance processes based on the cooperation and competition between and within trans-national communities foreign policy needs to engage in advancing a framework of cooperation and the provision of public goods (for example, related to health or education) in global policy fields. This co-responsibility of foreign policy actors and trans-national communities materializes in particular within the domain of international organizations as that part of the legitimate international order where agreement is reached on a broad framework for global health strategies, and binding regulations and conventions are negotiated.

This has led to a rise in global health diplomacy. We focus on the role of WHO and its adaptive potential in the changing global health dynamics (section 7), and in the concluding section 8 we make a plea for a clear distinction between the role of state actors and civil society actors in GHG and for investing more intellectual and financial resources in promoting the evolution of public institutions in global health.

The Rise of Global Health Governance

The transformation of global health is embedded in a process of political and societal change that is broad in scope and requires a historical perspective. Although global health and GHG are relatively recent terms, they build on a long history of institution building. The complex multi-actor, multi-level global health governance of today has evolved from continuous efforts to address health challenges of a cross-border nature for about 160 years, notwithstanding regular setbacks. The First International Sanitary Conference opened in Paris in 1851. Health was one of the first trans-boundary challenges that put to use the new mechanism of the multi-lateral conference, which had been 'invented' in the early years of the nineteenth century to create a level playing field among an increasing number of state actors with various degree of power and interests. It would take 40 years to reach the first international sanitary convention in 1892, but the first steps towards a governance system for international health were made as the 10 International Sanitary Conferences began to shape rules and norms that would govern the international health system.

The idea for a permanent international body was raised during the Vienna Sanitary Conference in 1874, but it took until the beginning of the twentieth century to create first the OIHP (Office International d'Hygiène Publique) in 1908 (WHO 1958) and later the League of Nations Health Organization (LNHO) in 1922–23 (LNHO 1931). Already in this period non-state organizations played a critical role: the International Committee of the Red Cross, created in 1863, and the Rockefeller Foundation, which created its health division in 1928 (WHO 1958). When the WHO was created in 1948, for the first time a single organization would have the broad and undisputed mandate to 'act as the directing and coordinating authority on international health work' (Constitution of the World Health Organization, article 2a). WHO was also entrusted with the task of 'establishing and maintaining effective collaboration with the United Nations, specialized agencies, governmental health administrations, professional groups and such other organizations as may be deemed appropriate' (ibid., article 2b) (Kickbusch 2012).

In its first 30 years WHO filled this role in many ways, including the historic achievement of the eradication of smallpox (Soon et al. 2007; Bhattacharya 2008; Kunze 2010; Vutuc and Flamm 2010). But already in 1978, as the member states of the WHO pledged to aim at the 'attainment of the highest possible level of health' by adopting the Strategy of Health For All by the Year 2000 (World Health Assembly resolutions 30.43 of 19 May 1977 and 32.30 of 25 May 1979), the world was beginning to transform profoundly. Three developments stand out. An increasing number of countries had reached independence and faced the challenge of building national health systems; the new infectious disease HIV/AIDS crossed the globe; in 1989 the Berlin Wall fell and the stagnation of the Cold War was replaced with the dynamics of global markets. By the year 2000 globalization had changed the health arena and resulted in new dynamics for global health governance. 'In just over two decades global health has gained a political visibility and status which some authors have called a political revolution' (Kickbusch, 2011a).

Five characteristics of this 'globalization of health' can be highlighted.

- *Health threats* such as HIV/AIDS, influenza, SARS or avian flu threaten each and every country and the global community as a whole due to the rapid spread based on global travel and mobility; their impact is frequently very serious in economic terms.
- The *globalization of lifestyles* has led to common chronic disease challenges such as diabetes, and is linked to the impact of global industries such as tobacco and alcohol as well as the food industry.
- The health sector is a *critical sector for stability* in many countries: healthcare financing is a key political issue in all countries; the mobility of patients and healthcare professionals is a global issue.
- Health is *one of the largest industries worldwide*: critical issues – for example around intellectual property and trade in goods and services – have

major economic consequences for companies and countries, and major consequences in terms of access for poor people and countries. The access issue has gained attention in particular concerning access to antiretrovirals (ARVs) and the conflicts related to the TRIPS Agreement and the production and marketing of generic versions of medicines (see Ovtcharenko et al., this volume).

- *Inequality of access to health* around the world is gaining more attention and has become a major subject of discourses on human rights and social justice. More investment in health is critical for all nations, especially the poor. Inequality (and the immense resources needed for global redistribution) can be roughly characterized by the gap between annual health expenditures per person of USD7,285 in the US and less than USD10 in Myanmar, Eritrea and Ethiopia (WHO National Health Account Database, 2009).

In this period the very understanding of global health has changed. On the one hand it is no longer understood only as an outcome of economic and social development but also as an important precondition. Investments in health 'pay' through their positive impact on development. WHO contributed significantly to this change of perspective through the work of two major commissions: the Commission on Macroeconomics and Health (2000–2001) and the Commission on the Social Determinants of Health (2005–2008). On the other hand, health has been increasingly seen as a foreign policy concern (Kickbusch 2011b) linked to all four functions of foreign policy identified in the Note by the UN (2009a, SG A/64/365) prepared in collaboration with the WHO: 'achieving security, creating economic wealth, supporting development in low income countries, and protecting human dignity' (UN 2009a).

Health is seen as a matter of national security, directly linked to infectious diseases; indirectly to the stability of poor countries (Fidler 2003b); as a matter of economic interests (intellectual property rights); and as an issue in development and the cooperation with poor regions. In its first-ever meeting on a health issue, in 2000 the UN Security Council adopted Resolution 1308 to limit the potentially damaging impact of HIV on the health of uniformed services personnel. The production of global public goods for health and the underlying human rights dimensions remain neglected. The more clarity there is about the wide range of different arguments for health in foreign policy across security, trade, development, global public goods and human rights agendas (see Figure 11.1), the better can health interests be defended in the multi-actor, multi-level negotiations taking place in a wide range of forums and institutions.

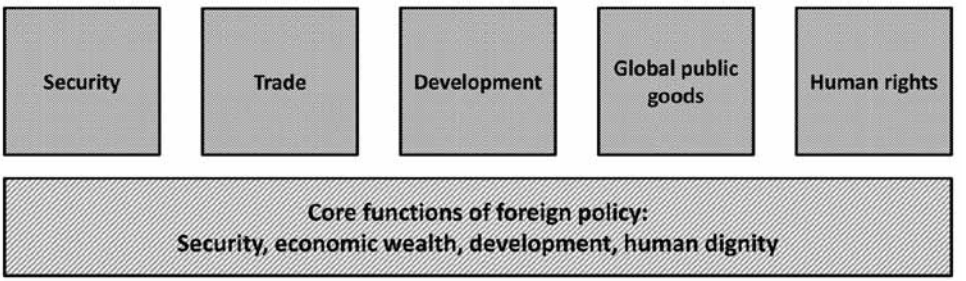

Figure 11.1 Arguments for health in foreign policy

The Changing Landscape of GHG

The term *global health governance* was introduced into academic discourse around the year 2000 (Kickbusch 2000, Dodgson et al. 2002, Taylor 2002). It followed on the introduction of the term 'global governance' by the Club of Rome, the Commission on Global Governance, the World Bank, the United Nations Development Programme (UNDP) and the OECD in the 1990s in searching for new strategies in the management of global problems. In particular with regard to the implementation of development policies and global environmental policies (Young 1997) the term 'global governance' has been increasingly used in the academic discourse.

The discourse on GHG reflects a substantive concern with the factors and determinants that affect peoples' health worldwide in response to globalization, either directly (for example, the global spread of diseases such as HIV/AIDS; the control of new influenza pandemics; the impact of global tobacco consumption) or indirectly (extreme inequalities; changing lifestyles). This in turn leads to challenges related to the increasing interdependencies between health and other areas of global governance such as trade and intellectual property rights, environment and agriculture. The Millennium Development Goals (proclaimed in 2000, including goals on fighting infectious diseases and improving maternal health, child mortality and access to medicines) and the Commission on Macroeconomics and Health (CMH 2001) are expressions of this concern. The term 'governance for global health' has been used to refer to the attempts of governments or other players to steer communities, countries or groups of countries in the pursuit of health as an integral part of human life through both a 'whole-of-government' and a 'whole-of-society' approach (Lee and Mills 2000; Kickbusch 2006, 563). This implies continuous efforts towards joint action from the health and non-health sectors and from the public, private and civil society actors.

The response to AIDS has played a central role in the development of new processes and institutions at the global level and with subsequent implications for the GHG discourse. The creation of the pioneer institution to improve joint action on HIV/AIDS within the UN system, the Joint United Nations Programme

on HIV/AIDS (UNAIDS) was a signal for political innovation in the global health arena. UNAIDS constitutes an example of a coordinating UN agency established as a response to a global challenge. It is also the first UN institution which integrates CSOs as members (not only 'observers') of its governing body, the Programme Coordinating Board (PCB). Formally established by ECOSOC in 1994, UNAIDS started its operations in January 1996 as a co-sponsored programme bringing together the HIV/AIDS-related activities of WHO with those of the United Nations Children's Fund (UNICEF), the UNDP, the United Nations Population Fund (UNFPA), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Bank (Huckel Schneider 2009).

One of the most important features of GHG is the growing number of actors and the new hybrid forms that have been introduced into the global health arena. CSOs like the Doctors without Borders (Médecins sans Frontières, MSF) and international foundations like the BMGF have considerably increased their impact on the agenda and the political processes in global health and they have ensured a voice in decision taking. A significant number of new Global health initiatives (GHIs) were launched in the last decade, such as GFATM, GAVI, Roll Back Malaria, Stop TB Partnership and the Global Network for Neglected Diseases. The proliferation in the number and variety of new actors in global health as well as their changing role and growing impact has not only added expertise and financial resources to the field of international health (see Figure 11.2).

These new types of hybrid actors comprised members of at least two of the three types of political actors (states, private-for-profit actors and CSOs) in their governing bodies and together with other forms of Public Private Partnerships (PPPs), they began to engage in delivering health to populations in poor countries and ensuring research that corresponds to their needs. GHIs have contributed significantly to fundamental changes in the architecture of international health policies over the last 20 years and interact with national governments and international governmental organizations. They aim to combine the specific needs identified by governments, IGOs, or CSOs with the scientific and technological capacities of private corporations and the financial resources of donor countries, public funds or private foundations. During recent years they have also made important contributions to research on neglected diseases,[5] to financing for health activities in specific fields such as HIV/AIDS and immunization and to improving access to medicines in poor regions. Today more than 200 PPPs work on health. (Kickbusch, Hein and Silberschmidt 2010; Garrett 2007), and 2010 there were 185 accredited NGOs in official relationship with WHO (WHO 2010d).

As noted in the introduction, this new dynamic came about not only because of improved opportunities for non-state actors to react to new global health challenges, but also because of the crisis of UN organizations in the 1990s. Many analysts considered them too bureaucratic and not sufficiently results oriented. In addition the United States imposed a zero-growth strategy on the budget of many

[5] These are diseases on which expenditures on R&D had been small due to a lack of private incentives as affected persons or countries have low (if any) purchasing power.

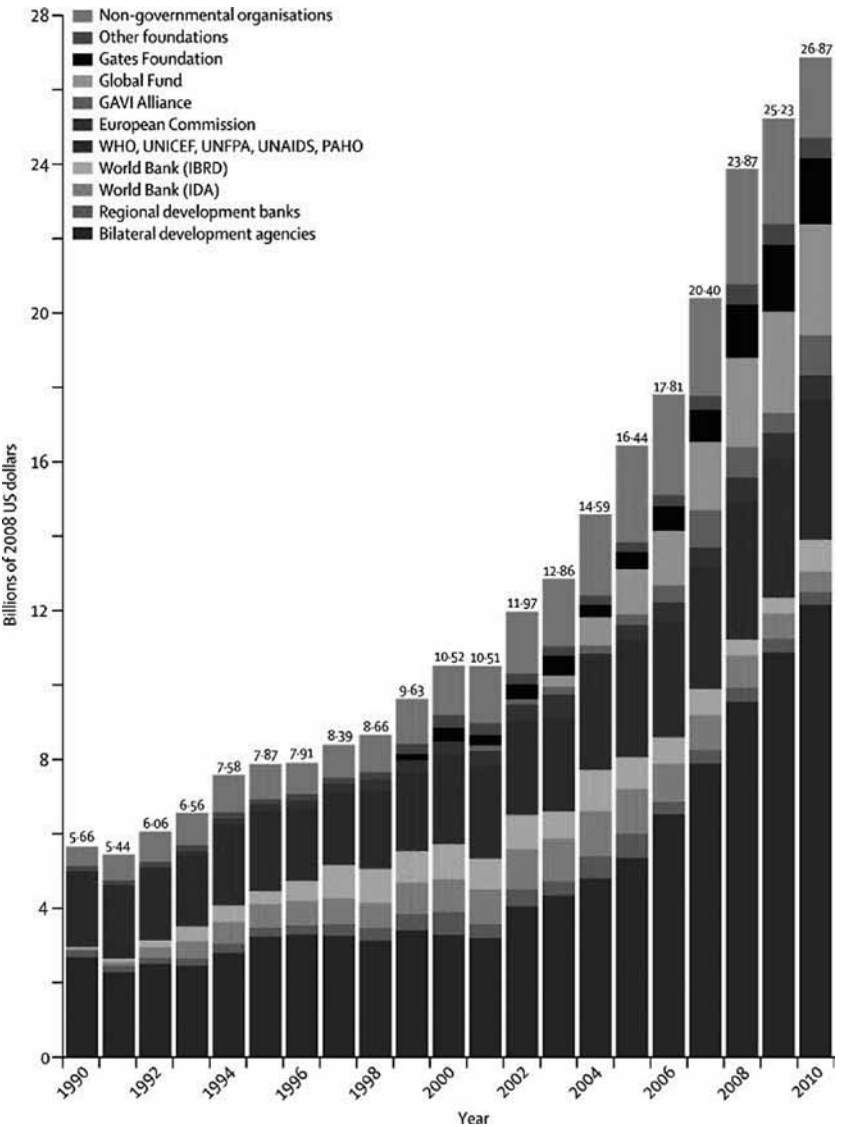

Figure 11.2 Development assistance for health from 1990 to 2011 by channel of assistance

The bar graph represents the contributions of specific (groups of) donors in the same sequence as in the legend. BMGF = Bill & Melinda Gates Foundation; GAVI = Global Alliance on Vaccines and Immunization; IBRD = International Bank for Reconstruction and Development; IDA = International Development Association.

* 2009 and 2010 are preliminary estimates based on information from the channels, including budgets, appropriations and correspondence.

Source: Reprinted from *The Lancet*, Vol. 378, C. Murray et al., 'Development assistance for health: Trends and prospects', 8–10, © 2011, with permission from Elsevier.

UN organizations. The *United Nations Reform Act* (Helms-Biden Act, a 1999 US law) set a number of conditions for the reform of the UN system before the US would release its total amount of arrears in payment to the UN. This also affected the WHO budget, and the ensuing lack of regular assessed contributions to the budget of the WHO significantly impinged on its governance capacities because it reduced the budgetary independence of the organization. The principle of zero nominal growth forced the organization to raise and compete for extra-budgetary resources which are mostly ear-marked for specific projects and are skewed towards operational rather than norm-setting functions of the organization. This also suited many of the other high-income countries because it gave them more leverage over the work of the organization. While the WHO was restrained by frozen budgets and little support from many of its main stakeholders, new organizations were created. It was argued that this was necessary in order to react quickly and effectively to pressing global health challenges (see for example Chow 2010) but it was also an attractive option for governments to pursue their foreign policy goals in alliance with non-state actors and thus to avoid multi-lateral institutions where due to decision-making on the one country one vote basis might have led to other approaches or priorities.

Two decades of reconfiguration of the global health landscape have highlighted major problems that are now broadly debated in the global health governance literature. They are related to the focus, the legitimacy, the complexity of the system that has emerged and to the role of international organizations such as the WHO in the twenty-first century.

(1) *Focus:* The tendency to equate global health action with a focus on controlling and treating specific diseases in developing countries, especially the 'diseases of the poor', has been reinforced by GHIs. While the advantages include a targeted approach in which resources (financial and human) are concentrated around a single goal, too often they pay little attention to the broader context in which the fight against a specific disease takes place and thus undermine the sustainability and sometimes even the effectiveness of their goals. Horizontal activities such as improving national health systems and developing primary health care (PHC) systems have been neglected until recently. However, the High-Level Forum (HLF) on the Health MDGs (World Bank and WHO 2006) demanded concrete strategies to support the development of health systems in poor countries, and, to support this goal, better coordination between GHIs and the improvement of health funding (see also WHO 2010f).

(2) *Legitimacy:* There has been a growing critique concerning a lack of legitimacy and accountability on the part of most of the new non-state actors in GHG. Large CSOs, GHIs and financially strong foundations (such as the Bill & Melinda Gates Foundation) are having an important impact on the orientation of global health without being accountable to the people, and often governments, affected by their activities. While IGOs may also suffer from legitimacy problems, they are clearly accountable to governing bodies in which sovereign states are represented (Bartsch, Huckel Schneider and Kohlmorgen 2009).

(3) *Complexity:* Not only do the increasing interdependencies between health and other areas of global governance make global health governance more complex, but due to the increase in actors and funding sources international development cooperation is also facing new issues. National governments of poor countries are receiving aid from a growing number of different organizations and multiple donors come with different agendas and conditionalities, which are not necessarily coordinated among themselves and might well disregard existing national priorities. This makes it difficult for developing countries, heavily dependent on outside aid, to have sustainable long-term national policies. Already limited national capacities are spent on filing reports or drafting new proposals targeted at multiple donors on various levels, each of them with a different focus area (Pritchett et al. 2004; Torsvik 2005; Aldasoro et al. 2010; Bearce et al. 2010).

(4) *Role of the WHO*: In the last decade there has been a reassessment of the role of the WHO in global health governance. It builds on important accomplishments of the organization which within a decade has been able to achieve the adoption of several important agreements that guide global health in very sensitive areas: the FCTC (2003), the revised IHR (2005), the WHO Global Code of Practice on the International Recruitment of Health Personnel (2010) and the Pandemic Influenza Preparedness Framework (2011). More recent literature discusses the need to strengthen WHO's role in global health governance – a process that would require significant reform and political will from its member states. The third consecutive UN General Assembly Resolution on Global Health and Foreign Policy, from 2010 (UN GA A/65/95) '[r]ecognizes the leading role of the WHO as the primary specialized agency for health' (paragraph 16). There is now a growing recognition that a sidelining and weakening of international organizations in global governance, in this case the WHO, can prove counterproductive and may harm efforts to improve health around the world (Kickbusch, Hein and Silberschmidt 2010). This has brought the question of the WHO role back on the global governance agenda along with an increasing recognition that there are certain functions that the WHO is best equipped to perform (such as exercising its convening power, norm and standard setting and the global surveillance of infectious diseases).

Global Society and the Reconfiguration of Actors in a System of Global Politics

International relations theory traditionally conceived international agreements in a rather simple way: The system of international relations was based on *an aggregation of interests at the national level* (see Figure 11.3; A1, A2 and A3 represent the various interest groups – business, unions, CSOs – in nation A and so on). Thus, negotiations at the international level were led by governments on the basis of these nationally aggregated positions, which, in the first instance, reflected power relations within nation states. The outcome of these negotiations was a result of

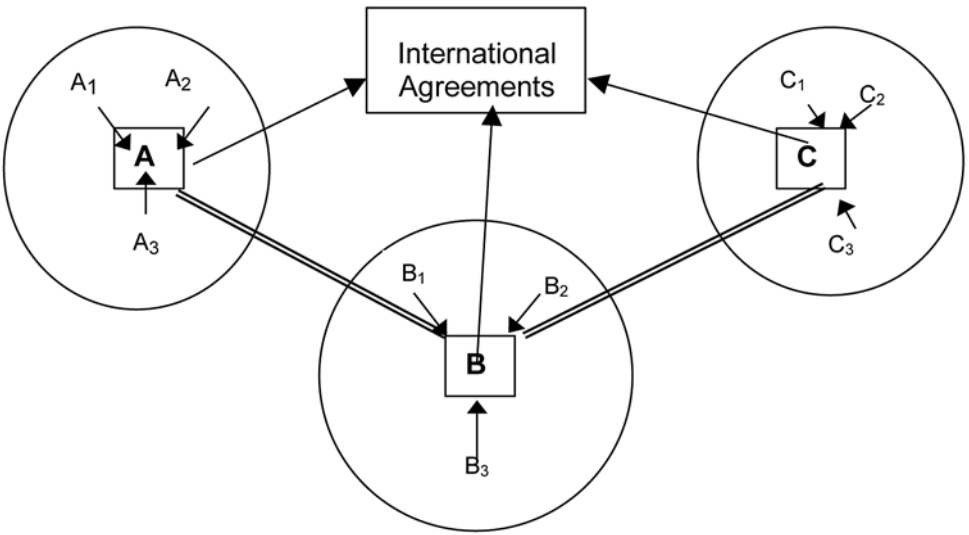

Figure 11.3 International agreements in traditional IR theory
Source: W. Hein.

power relations between nation states, partially mediated by decision-making procedures within International Governmental Organizations (IGOs).

Globalization has established new trans-national spaces of interests and power that prevent a full aggregation of interests on the national level, but produce dynamics and opportunities through a trans-national cooperation of non-state actors, which can limit the political options of nation states. A complex structure of interaction and relations between the different actors (see Figure 11.4) has emerged. In the ideal Westphalian system of sovereignty there are basically only two alternatives of cooperation: within an IGO or as bilateral cooperation between states. In the post-Westphalian system there are many possibilities for cooperation and conflicts among nation states, IGOs, CSOs, and trans-national corporations. The 'old' actors of the Westphalian systems are included, but their roles are transformed as their political monopoly is challenged by the emergence of new, genuinely trans-national actors. New governance nodes appear in the trans-national political space (N_1, N_2, on nodal governance, see section 5 below) which coordinate power resources and compete for the shaping of global governance processes. These nodes, which might be CSO networks linked to IGOs but also specific coordinating bodies within IGOs integrating other trans-national actors, interfere with the aggregation of interests at the level of the nation-state. While in the Westphalian system the nation-state was the main institution for norm-setting, we can now observe new modes, spatial levels and institutions that shape the norm-setting process.

Whether these changes are indicative of the emergence of a global society is a matter of definition, but certainly there is a tendency towards the disintegration of

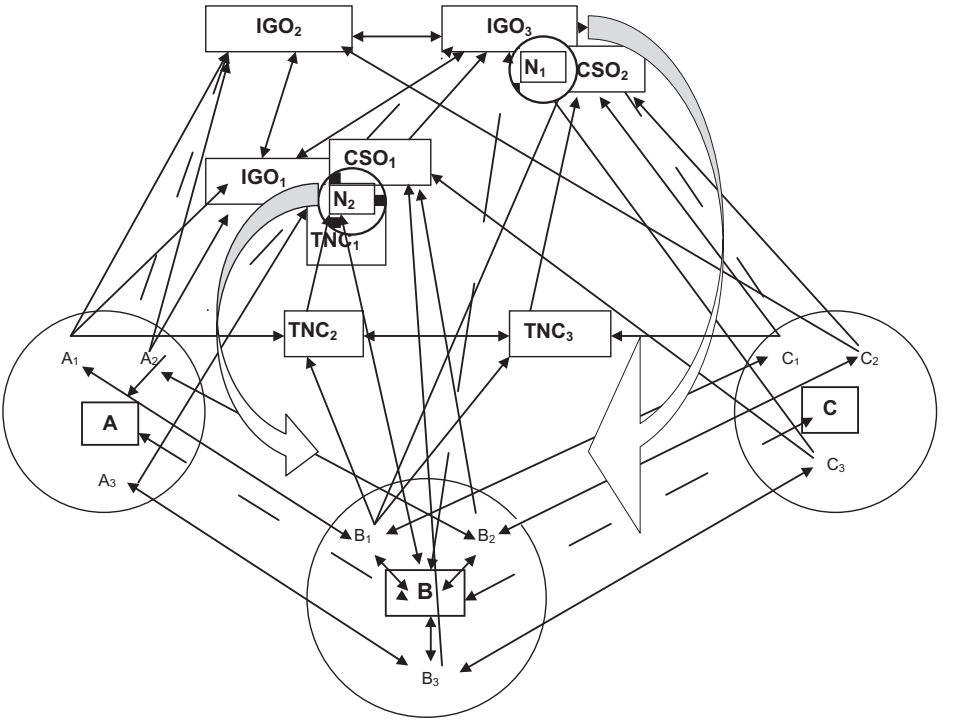

Figure 11.4 Global politics in a post-Westphalian system

Source: W. Hein (own figure).

interaction patterns on the national level and the creation of patterns of cooperation at least partially based in a common identity of groups of actors across national borders (see for example, Sklair 2001). New empirical studies on global governance focus on these processes.[6] In terms of political system building, there are early processes of the development of a *global demos*, for instance, a self-consciousness among actors that 'global democracy' means more than an equal representation of *governments* in international institutions. This implies an understanding of human rights as rights which have to be granted to people in all countries and which have to be fought for and defended by people as 'global citizens'. This thinking can be seen as fundamental to many activities of CSOs in global health, for example, the Campaign for Access to Essential Medicines ('t Hoen 2009, Mackintosh and Mujinja 2010, Morin 2010). Not only the discourse on human rights but also the understanding of the growing impact of globalization on health has been strengthened. Many of the health effects of globalization are not due to increasing

[6] On CSOs and norm-building see Keck and Sikkink 1998; for sociological analyses, see Mau 2007; Gaventa and Tandon 2010.

physical contacts, like the spread of infectious diseases, but are closely related to 'society building' and the spread of specific life styles and consumption patterns promoted by a global industry. The many new opportunities and problems related to globalization – for non-state actors, but also for governments – are at the root of the emergence of new modes of GHG.

We have highlighted in particular the proliferation of actors, their increasingly complex constellations and multi-level interactions. On the other hand, institutions that have the authority to negotiate binding agreements, coupled to the legitimate use of force and to elaborated judicial systems, remain centred on the nation/territory link. The greater the density of the network of global cooperation and agreements, the more important coherence and consistency become. If Modelski (2008) is correct in analyzing globalization as an evolutionary process, one should expect continuously growing pressure for adapting institutions to cope with global problems and at the same time a growing aspiration for a transparent and legitimate process that leads to the desired results. Very different forms of institutional change can follow. The first steps towards governance forms that include the voices of different types of actors across the public, private and civil society spheres have already been taken by new organizations such as the GFATM and GAVI, but the major part of funding still comes from nation states. Larger issues of coherence and the sustainability of global health efforts still remain to be resolved. Despite the fact that the role of the WHO and its Assembly of nation states has often been challenged, its legitimacy derived from universal membership (open to all states, equal representation independent of economic power and size) make it indispensable for global health action in a multi-polar world. But member states need seriously to consider how to engage non-state players in a more transparent and rules-based approach in the negotiations conducted at the WHO.

The Production of Global Health Governance

Taking into account the dynamics of a rapidly changing global health arena, how then is global health governance 'produced' (Kickbusch 2000)? The complexity of the system finds its reflection in the wide range of interpretations that it receives in the literature. Depending on the vantage point, one can view the global health landscape as a 'creative plurality' of actors constantly contributing to the resolution of global health problems through innovation, or as an uncoordinated fragmentation of actors, activities, material and political resources in dire need of coordination. One can see a weakening of the WHO since it has not been able to assume a leadership position in the development arena or one can see it gaining strength through its potential in shaping international agreements. David Fidler has characterized the global health system as a form of 'open-source anarchy', implying that the monopoly of the sovereign state (the basis of anarchy in international relations following the realist school in IR) is replaced by broadening and deepening the normative basis for global health action which 'anybody can

access, use, modify and improve' (2007, 9). In this interactive space of global health governance, actors can use their specific forms of power and legitimacy to reach their goals and influence the process of governance: these can be financial resources, knowledge and expertise or moral authority. Post-Westphalian global politics is open to all actors that dispose of sufficient resources to leave an impact, but we should not forget that GHG is not a system of private actors excluding nation states and their governments, but a system where powerful nation states have developed strategies to form alliances with non-state actors in order to maximize their 'national' impact on global issues. Following these strategies, their foreign policies sometimes disregarded the specific importance of multi-lateral institutions for the legitimization of trans-national governance and agreements about formal trans-national norms.

The many trans-national networks that have been formed to focus on specific issues (like international health surveillance, access to medicines, neglected diseases, tobacco control and so on) constitute a complex web of global social relations within the space of global health. Following Peter Hill's use of complexity theory, global health is increasingly considered a complex adaptive system (Hill 2010) characterized by nodal governance and polylateral diplomacy (Wiseman 1999).[7] It reiterates earlier attempts to map the new political space of global health governance, highlighting the importance of strategic organizations with collaborative capabilities who proactively engage in a mixed process of coherence and pluralism (see Kickbusch 2003a).

When discussing the fragmentation of global health governance it is helpful to consider that similar challenges have been identified for the field of development aid as a whole. Severino and Ray (2010) describe the development landscape as an 'institutional jungle' related in particular to the tendency towards the privatization of international cooperation. They propose the term 'hypercollective action' to characterize this 'new mode of production of global policies' (Severino and Ray 2010, 11). The authors acknowledge the mobilizing and creative dimension of these dynamics, but also the 'considerable costs in terms of efficiency, time, coherence and … credibility' (ibid, 12).

'Coordination' has become a major focus of all discussions surrounding the future of global health governance – at the country level but also between the many international agencies dealing with health issues. Many of the issues have also been raised in the global discourse on the effectiveness of development cooperation. After the adoption of the Millennium Development Goals (MDGs) it appeared critical to attempt a comprehensive reform of international cooperation. The Paris Declaration on Aid Effectiveness (2005) articulated five target areas of improvement: ownership, harmonization, alignment, results and mutual

[7] Geoffrey Wiseman proposes that 'traditional state-centred bilateral and multi-lateral diplomatic concepts and practices need to be complemented with explicit awareness of a further layer of diplomatic interaction and relationships. Accordingly, the diplomat of the future will need to operate at the bilateral level, the multilateral level and, increasingly, the polylateral level (relations between states and other entities),' (1999).

accountability. Donor countries will coordinate and harmonize their aid in order to effectively support their partners' national development strategies, which will in turn follow internationally agreed-upon concepts of good governance. The results of cooperation are jointly evaluated. By explicitly addressing the problem of the multiplicity of donors in relation to the goal of 'delivering effective aid', the Paris Declaration highlighted one of the central problems in GHG. In the preparation of the Accra HLF on Aid Effectiveness (a 2008 follow-up meeting to the Paris conference) the WHO, the World Bank and OECD proposed using health as a '"tracer sector" for tracking progress on the Paris Declaration'. They pointed out that 'aid effectiveness is particularly challenging in health. As with other sectors, difficulties are the result of inefficiencies in the global aid architecture and of poor country policies; however, problems in health are exacerbated by the inherent complexities of the sector itself' (Dodd et al. 2007, 1).

In a complex, adaptive and dynamic system new forms of coordination emerge. The *interactive processes of GHG* go beyond the understanding of coordination as put forward in the Paris and Accra Declarations. Multiple forms of trans-national links can in fact *coordinate* all kind of activities: research, production, marketing campaigns, political strategies, CSO campaigns and whatever might be of interest for a trans-national group of actors. In these networking processes important actors or institutions emerge as nodes of information and coordination (in the pursuits of specific goals like improving access to medicines, improving support systems for PHC, and so on), which frequently link various fields of activities and types of actors. This creates forms of coordination, cooperation and networked power, characterized by the concept of *nodal governance* (Shearing and Wood 2003; Burris, Drahos and Shearing 2005; Hein, Burris and Shearing 2009).

Through global health diplomacy, complemented by informal and formal networking in Geneva and at other regular global health venues, new flexible links between state actors and other global health actors are established. The concept of interfaces can be used to analyse the 'power map' of a governance system and the key characteristics of effective governing nodes. 'The interactions taking place may reshape the goals, perceptions, interests and relationships of the various actors' (Long 1989 ed., 1–2). These processes point to a constant dynamic adjustment process of the global health system which integrates the attempts of multiple actors to contribute to solving health problems through open-source approaches with those who try to affect the governance system with their demands for coordination in a more traditional understanding. Some scholars of diplomacy see the 'management of global affairs' as a key role of diplomats in the twenty-first century.

Nodal governance operates in such a landscape of mixed social interactions and of conflicting or merging cultural and political habits and behaviours. Nodal governance characterizes many issue-oriented activities like the Access Campaign, where MSF/Geneva acts as the central node linking the activities of many NGOs, the People's Health Movement as a large network of grass-roots organizations or Knowledge Ecology International (kei online) as a communication platform in the internet, providing an information exchange on the impact of intellectual

property rights on medical research and access to medicines. Nodal governance is also at work in state-based institutions. The period during the World Health Assembly – the highest decision-making body of the WHO – every May in Geneva has become one of the central nodes for global health governance. *Polylateral diplomacy* is conducted throughout its duration and formal and informal meetings take place among a wide range of actors at multiple levels. Key global health players may exert influence, even if they are not formal members of the WHA and cannot vote. Linking these levels of nodal governance – providing both the political space for informal negotiation and formal-legal decision-making and managing their interface – will be a central task for achieving a successful overall new type coordination in global health governance (Kickbusch et al. 2010).

The Increasingly Complex Relationship between Health and Foreign Policy

The ultimate source of legitimacy of inter-governmental organizations is the legitimacy of national governments. Although globalization has led to a considerable reduction of the autonomous governance capacity of nation states, states have not been replaced by any other institution concerning collective decision-making, rule-setting and the allocation of public resources. On the other hand, as we have shown throughout this chapter, the importance of global health for individual societies has grown considerably. In this context, the link between health and foreign policy has increased considerably in importance.

The concept of polylateral diplomacy highlights the importance of the growing and diverse number of actors and their complex interactions but also links them to the changing relationship between health and foreign policy. A continuum between two points – from (A) where foreign policy neglects or even hinders health interests towards a situation where foreign policy is increasingly called to serve health (D) (Kickbusch 2011b) – illustrates how national interests can be protected in a variety of ways and with different influence on health outcomes.

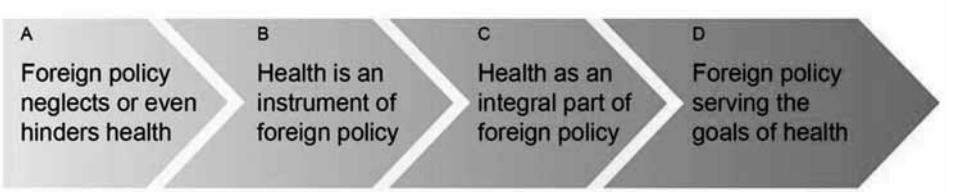

Figure 11.5 The continuum of the relationship between health and foreign policy

(A) marks a position where diplomacy fails and military action takes place or where economic and security interests trump health. The Washington Consensus can be referred to as a prime example of the dominance of economic interests. From fragile states and the health disasters that accompany them to international and bilateral trade agreements where health is marginalized, examples in this context can be traced to a wide range of policy issues and negotiation venues. Examples are also found in negotiations at the WHO where member states have opposed public health positions, as witnessed in the negotiations on the FCTC. It must be mentioned, however, that there is a growing awareness of health impacts across different areas. This is for example reflected in the shift in the development arena, from a neglect of health in structural adjustment processes in the 1980s to the recognition of health as a core part of the MDGs. This is one of the most prominent success stories for shifting away from (A); climate change might well become another for the years to come.

Health as an instrument of foreign policy, (B) uses health to improve relations between states; despite a rationale outside health it can still bring benefits for health. An increasingly diverse group of countries – small and big, low-, middle- and high-income – are using health in such an instrumental way: the long-standing Cuban medical diplomacy programme (Feinsilver 2006; Alvarez and Hanson 2009), Chinese health projects with African states (Thompson 2005) or the US President's Emergency Plan for AIDS Relief (PEPFAR) (Bendavid and Bhattacharya 2009) provide illustrations. Brazil has used its fight against HIV/AIDS and its south–south assistance in health in the service of Brazil's foreign policy objectives, for example the reform of the UN Security Council (Gomez 2009). The Scandinavian countries use health to demonstrate their commitment to the multi-lateral systems that provide them with a voice and a role on the global stage. The signal such programmes send is intended to reach beyond the recipient countries and becomes part of public diplomacy.

As globalization has made the world increasingly inter-connected, pandemics and the fear of bioterrorism have called for more strategic consideration of health in the realm of foreign policy and security: health has become an integral part of it (C). Many countries as well as the European Union consider health in their national security strategies. This realization led to the rapid agreement by states to the revision of the IHRs, despite the fact that the regulations transcend sovereignty in some of their provisions. It is this relationship between health and foreign policy that manifests itself in the negotiations in international organizations. The movement towards the relationship between health and foreign policy (D), not only reflects the rising profile of health on the (global) political agenda, but also leads toward a point where foreign policy is increasingly called to serve health interests. This move has now been expressed in three UN Resolutions on global health and foreign policy (UN GA 63/33, 64/108, 65/ 95). They reflect the key statement of the Oslo Ministerial Declaration: 'We believe that health as a foreign policy issue needs a stronger strategic focus on the international agenda. We have therefore agreed to make impact on health a point of departure and a defining lens that each of our countries will use to examine key elements of foreign policy and development

strategies, and to engage in a dialogue on how to deal with policy options from this perspective' (Oslo Ministerial Declaration 2007).

Amidst the complexity of multi-level, multi-actor processes to address a growing number of health challenges, the ability to conduct negotiations for health consistently over time and at different levels of governance is becoming increasingly important. Countries are already exploring different approaches to increase coherence. Switzerland developed a strategy called *Swiss Health Foreign Policy* in 2006 (Federal Department of Home Affairs and Federal Department of Foreign Affairs of Switzerland 2006) and the United Kingdom has issued a government-wide *Health is Global* strategy (Government of the United Kingdom 2008). The Norwegian WHO Strategy has been developed in a joint policy process between the Ministry of Health and the Ministry of Foreign Affairs, with input from other stakeholders (Norwegian Ministry of Health and Care Services and Norwegian Ministry of Foreign Services 2010). Japan has announced a Global Health Policy for the period 2011–15 which pledges USD5 billion in support for health (Ministry of Foreign Affairs of Japan 2010). France, Norway, Belgium and the Netherlands have established coordination mechanisms within and between ministries. One model is for the ministry of health to second a health professional to the ministry of foreign affairs to conduct the health negotiations on a regular basis in particular in Geneva, the location of the WHO and many other health agencies. The number of health *attachés* assigned to embassies, both in third countries and particularly in representations to the United Nations, is growing.

Beyond the national level, increased cooperation is also sought through intensified participation at the regional and sub-regional level within a range of organizations such as the Association of South-east Asian Nations, the Asia-Pacific Economic Cooperation forum, the European Union, the African Union, the Common Market of the Southern Cone, the Union of South American Nations, the stability pact for South-Eastern Europe and the Shanghai Cooperation Organization. The consequence of these efforts, however, transcends the effects on health: they create the habit of communication and, where possible, dialogue, while building relationships between diverse groups of countries and thus potential alliances for negotiations beyond health. Two diverse examples include the first meeting of the BRICS[8] health ministers in China in 2011, which led to a 'Beijing Declaration' promoting further cooperation; and the Conclusions of the European Council on the EU role in global health that call 'on the EU and its Member States to act together' and state that the 'EU shall promote dialogue and joint action with key global players and stakeholder' (Council of the EU 2010).

[8] The acronym BRIC (Brazil, Russia, India and China) was first used by a Goldman Sachs analyst in 2001 to identify high-performing 'emerging markets'. It was then taken over by a political association of those four countries initiated in 2006. In 2010 the group was extended by the admission of South Africa to become BRICS.

Keeping WHO at the Centre of Nodal Health Governance: Proposals for Reform

The WHO was created in 1948 to 'act as the directing and coordinating authority on international health work' (Constitution of the World Health Organization, article 2a). The paragraphs on nodal governance and the role of the World Health Assembly as well as the section on health and foreign policy point to the critical role WHO is playing in global health *not in spite of but because* of the proliferation of actors in this policy field. In recent years, this process has also led to a re-appraisal of the role of WHO in the foreign policy of nation states: many policies now explicitly state that their intention is to strengthen the WHO. In the increasingly dynamic political space of global health, in which multiple mechanisms to accommodate multi-stakeholder activities have evolved, cooperation between governments and organizations of global civil society as well as international business has become a normal feature of GHG as well as of foreign policy. Governments now recognize the specificity of multi-lateral institutions concerning their legitimacy to negotiate binding international agreements and to give orientation to a policy field such as GHG as a whole while at the same time pursuing specific 'result-oriented' strategies with different partners. This 'division of labour' will probably be even more pronounced in the future.

The coordination activities stimulated by the Paris Declaration will in the best case be successful in coordinating specific issue areas of global health such as health systems strengthening. What is needed, however, is to provide an institutional framework which can play a central nodal role for an open discussion of needs and priorities in global health on the one hand and produce internationally binding decisions to implement agreed strategies on the other.

To move this forward, WHO still appears the most appropriate organization and venue. So far, the link between the nodal function of WHO and its role as an IGO is the result of informal dynamics, and following the concept of nodal governance, it can be expected that this link will lose its strength if it is pressed into a formal structure. Yet it is important to give the global society/non-state actor constituency a recognized role in relationship to WHO procedures. For the last few years, a discourse on an appropriate reform of the institutional structures of the WHO has begun. It is now not only in the academic arena but has been taken to the governing bodies of the WHO, as highlighted with the report of WHO's Director General for the Executive Board (15 December 2010) entitled 'The Future of Financing for WHO' and the discussions during the Executive Board session in January 2011.

Different approaches have been put forward to accommodate the pressing need for adaptation. Lawrence O. Gostin (2007) has proposed that the WHO take full advantage of its treaty-making capabilities and establish a *Framework Convention on Global Health* that ties all major stakeholders (states as well as non-state actors) to the aims of building capacity, setting priorities, coordinating activities and monitoring progress (see also Gostin and Mok, eds 2010). A second proposal starts from the

importance of the WHA, in particular its unique legitimacy for international action. It recommends that a Committee C of the World Health Assembly be established to increase transparency and accountability. This would allow not only member state representatives, but also other stakeholders such as international agencies, philanthropic organizations, multi-national health initiatives and representatives from major civil society groups to take public positions on key global health issues (Kickbusch et al. 2010). The proposed Committee C would debate major health initiatives and provide an opportunity for the primary players involved in health to present their plans and achievements and offer discussion of collective concerns with WHA's member state representatives. The deliberations of Committee C would then inform the decision process of the WHA. As the only legitimate supra-national authority on health issues, the WHO is the appropriate vessel for housing a coordination mechanism that brings all prominent global health actors to the table. The Committee C proposal can be seen as a mechanism to link nodal governance processes to the constitutional position of WHO within a system of sovereign nations. Possibly other types of forums and platforms can fulfil a similar function within the work of the WHO; they remain to be tested and explored.

Conclusions

It is generally accepted that various aspects of globalization constitute essential elements for understanding the rise of GHG. Our contribution has focused on the impact of the formation of a global society expressed through an emerging 'collective intentionality' in health, on the proliferation of non-state actors in global health and their interface with state actors (nation states as well as inter-governmental organization) in various forms of GHIs and PPPs.

Modern national politics are characterized by three basic types of actors: public actors (linked to state institutions at different levels), civil society and private-for-profit actors. This constellation now re-appears at the global level. Trans-national communities develop as nuclei of a global civil society and have attained considerable strength in some fields of global health; trans-national corporations dominate the world economy; and the need for a more effective global regulation of public health challenges is increasingly expressed, as was documented in the negotiations on the FCTC. But one system is not replacing the other. Due to the resilience of the nation-state and the continuing (though case-dependent) strength of societal integration at the national level, rather, a multi-level governance system is developing which is characterized by a high level of complexity and a myriad of potentials for coalitions across different types of actors and levels. From a national perspective, global health as a strong system of multi-level governance, has become an important element of post-Westphalian foreign policy, where the focus is not on maximizing national interests in competition with other nation states, but on effectively linking the national and the global levels of governance.

The growing interdependence of human beings in a globalizing society explains the significance of global norm-building processes, but also the increasing importance of the provision of global public goods for health (Kaul et al. 1999; Kaul and Faust 2001; Feachem and Medlin 2002; Sandler and Arce 2002; Kaul 2003; Smith et al. 2003; Warwick 2006; Smith and MacKellar 2007; Kaul 2010; Kickbusch, Hein and Silberschmidt 2010): these include strengthening the protection against infectious diseases, developing common strategies for the prevention against chronic diseases related to changing lifestyles and global commodities which endanger health, and access to medicines and health care as a foundation of development. Global public goods are basically provided by agreements between nation states, which gain rather than lose sovereignty through collective action in the face of the global power of markets. But as long as their provision depends on the readiness (and benevolence) of nations alone, they are not truly 'global': a strong global civil society is emerging which defines itself as a nucleus of a global demos demanding institutionalized participation in decision-making.

The growing role of trans-national non-state actors, and the growing importance of hybrid organizations in which they cooperate with state actors at eye-level, ought not to make us forget that complex societies need institutions responsible for collective decision-making, rule-setting and the allocation of public resources. As long as we do not have other institutions to fulfil these functions, we must rely on states at the local and national levels as well as the (often fragile) structures of inter-governmental organizations. A global civil society is a global *civil* society, producing expressions of a political will based on emerging common interests and identities, but is not a substitute for global institutions. Indeed global civil society is well served to aim at strengthen global institutions such as the WHO and make them more inclusive, transparent and accountable. This is all the more important in a world with numerous centres of power, many of which are not committed to improving global health governance.

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Advocates for Global Health Aid Must Call for a New Development Model

Rick Rowden

Advocates for the Millennium Development Goals, generally, and the health-related MDGs in particular, have in recent years called on the major donor countries to live up to their prior commitments and increase their levels of foreign aid. The goals, which all 192 United Nations member states and at least 23 international organizations agreed to achieve by the year 2015, were certainly laudable and include reducing by half the numbers of people living in extreme poverty, reducing child mortality rates and fighting disease epidemics such as AIDS. Calling for such increased donor aid is absolutely essential, and such advocates deserve credit for doing so. However, by primarily looking to such external solutions, donors and global health advocates alike have tended to neglect the actual reasons for under-development and insufficient health financing in developing countries. The presumption is that the countries simply need more money. They frequently neglect to address the other side of the health-financing coin: domestic financing. And where the domestic financing is insufficient, many global health advocates tend to neither ask why it is insufficient, nor do anything about it.

The discourse around the MDGs includes related aspects that are also worthy of attention, such as the notion of 'country ownership' or letting the recipient governments themselves decide how, where and on what to spend the aid. It also raises related issues of transparency, anti-corruption, accountability to citizens and participation with civil society regarding the prioritization, management and spending of the aid. Many donors also include reforms to streamline procedures and increase the 'efficiency' of public financial management and tax collection. Yet, while all of the above are useful, none of this goes farther to ask more basic questions such as why the countries need so much aid to begin with, or what has gone wrong with the current development model that leaves so many countries still so incapable of financing their own needs themselves.

Indeed, rarely do aid advocates seem to step back and think about broader issues of national economic development at all. Like advocates for education or

small farmers, health advocates often tend to stay within their comfortable and familiar health sector 'silo' and neglect what is going on in the rest of the domestic economy. Yet such a narrow focus can facilitate solutions which focus inordinately on outside solutions, such as more foreign aid. The fragmentation of foreign aid into hundreds of thousands of individual projects and programmes run by international and local non-governmental organizations (NGOs) across dozens of countries also facilitates this inability to see the forest for the trees, and can prevent advocates from asking the bigger questions that must be raised.

'Poverty Reduction' as Development

Part of the problem is that very few discussions about actual national economic development occur any more among health advocates or others in the foreign aid industry, as two decades of 'poverty reduction' discourse have replaced earlier notions of more conventional development economics. This has amounted to a profound shift in popular conceptions of 'development' and our ability to gauge whether aid is 'working' or not over time. This shift has occurred partly as a result of the fact that the MDGs approach to focusing on poverty indicators coincided with the ascendancy of the free-trade/free-markets approach that has informed the dominant development model in the last few decades. Such policies are embodied in a model known as the Washington Consensus, largely because the policies are enthusiastically supported by the international financial institutions based in Washington and their largest shareholder, the US Treasury Department. Although such policies began to be pushed forcefully by the Reagan administration in the US and Margaret Thatcher's government in the UK in the 1980s, the basic policy thrust has gone largely unchanged by their successors (even of different political parties). This policy approach, based on old notions of neo-classical economics and the free-trade theories of Adam Smith and David Ricardo, has suggested that developing countries today could achieve better and faster development through adopting rapid trade liberalization, financial liberalization, deregulation and privatization and by taking a hands-off approach towards using industrial policies to build up their domestic industries.

Since the 1980s, such a policy thrust has become so established in official aid circles that access to further donor aid and debt cancellation has been conditioned on the satisfactory implementation of such policy reforms. Going even further, today the policies are being enshrined in legal agreements such as the World Trade Organization (WTO) negotiations and increasingly through the proliferation of bilateral free-trade agreements and investment treaties among rich and poor nations.

As a new development model for poor countries introduced in the 1980s, the Washington Consensus replaced earlier approaches that had included industrialization and the Keynesian full-employment agenda of the 1950s, 1960s and 1970s, which had involved a much more proactive role for 'developmental

states' that provided for the kinds of industrial policies historically used by most of the rich countries to build the productive capacities of their domestic industries over the last few centuries (Chang 2002; Reinert 2007). Central to this historical approach to economic 'development' was the idea of industrialization: a process by which countries make profound transitions in their productive capacities, moving away from producing only primary agricultural commodities and extracting natural resources towards building manufacturing and services industries with increasingly higher technological sophistication and value-added over time. The idea was to create increased levels of productive employment as a way out of poverty, to avoid dependence on just a few low-level commodities by diversifying the economy and building up the domestic tax base over time so countries could increasingly finance their health, education and other needs by themselves. After all, the rich countries in the Organisation for Economic Cooperation and Development (OECD) are regularly referred to as the 'industrialized countries' for a reason, and yet these basic notions have been all but eliminated from the 'poverty reduction' discussion today.

The idea of industrialization, along with its corollary of Keynesian full-employment goals and large public investments in agriculture and the health and education infrastructure, was jettisoned from the official aid agenda in the 1980s with the onset of the Washington Consensus approach, which in contrast calls for minimal government intervention and maximum freedom for market forces. By the 1990s, the idea that states should play a proactive role in supporting the development of domestic industry had become decidedly unfashionable in capitals of the major foreign aid donor countries. Rather than focus on 'national' economic development, the new mantra became 'integration with the global economy' as the route to development. Micro-credit to enable individual villagers to become entrepreneurs in the free market had become acceptable and trendy, but full-blown industrial policies by governments to create employment, technological advancement and new industries, and build up the tax base had been taken off the agenda. Terms such as 'trade protection', 'subsidies', 'capital controls', 'technology policy' and other forms of 'industrial policy' came to be met with derision and disdain, thus even today few in the aid industry will mention them.

By the early 1990s, the Washington Consensus approach had totally replaced such earlier pathways to development, with its overriding idea that poor countries would be rewarded with higher economic growth and spontaneous development if they simply cut their budget deficits and keep them under control; raised interest rates if necessary to get inflation down and keep it down; and privatized, deregulated and opened their trade and financial accounts to the global economy. Because of this belief that the unfettered market would solve everything automatically, the aid industry had only to concern itself with temporarily ameliorating suffering and focusing on basic human needs. This reduction of the purpose and role of foreign aid led to the more narrow focus on social indicators and the logic of the MDGs. It came to be presumed that the 'magic of the marketplace' would take care of everything else. In the realm of health, this included a shift from public health systems to private providers at market prices. Today these ideas have become so

widely accepted they are ubiquitous, like the air one breathes or the ground on which one walks; they are not even thought about in the conscious mind. They have become the backdrop in the current MDGs discussions, and the health-related MDGs.

For the younger generation of aid advocates, this is the only world and the only discourse they have ever known, making it exceptionally difficult to juxtapose the Washington Consensus approach against earlier understandings of 'development'.

The only catch is that such successful economic development has not happened the way it was promised by proponents of free trade and free markets. Instead, the record has shown that by themselves, markets cannot determine the direction of development, and cannot deliver growth and redistribution, job creation or social protection. By 2003, the failure of the Washington Consensus approach to create jobs, diversify economies, facilitate the shift from primary agriculture into manufacturing and services industries and build the domestic tax bases was becoming increasingly evident. Mark Malloch-Brown, then-administrator of the United Nations Development Programme, therefore called for a re-affirmation of the role of the state in development policy: 'Market reforms are not enough. You can't just liberalize; you need an interventionist strategy' (UNDP 2004). Such insights fell on deaf ears in the aid community, where a nearly religious belief in free trade and free markets still goes largely unchallenged.

However, an increasing number of important studies over recent years, such as UNCTAD's 2006 Least Developed Countries Report, have called for a 'paradigm shift' away from the Washington Consensus approach and a reconsideration of the usefulness of industrial policies for building the domestic tax base, facilitating industrialization and increasing public investment (UNCTAD 2006a; see also UNCTAD 2005; UNIDO 2009; UNDESA 2009). The use of industrial policies, in which the government temporarily supports the emergence of new industries with publicly financed research and development (R&D), subsidies, trade protection, subsidized credit and other mechanisms – sometimes for decades at a time until they become competitive in international markets – had long been part of mainstream development economics until it came under sustained attack from advocates of free trade and free markets in the late 1970s and 1980s. Critics of industrial policies argued that they had not worked and indeed could not work because government failures were always worse than market failure. They advocated that we should forget about industrial policy or for that matter any other policy interventions by governments to solve problems of development, and instead focus on creating free markets and greatly reducing the role of the state to that of a light regulator, if at all.

These critics were certainly correct in pointing to some very unsuccessful instances of industry policy in developing countries. But they were selective in their criticisms and ignored successful cases (Robinson 2009). Furthermore, the critics did not account for why industrial policies had worked so well in the US, Europe and east Asia, but failed so badly in Africa and elsewhere. Instead, they just tossed out the baby with the bathwater and took the whole discussion of industrialization off the table.

The rise of the doctrine of free markets and free trade was partially enabled by some high-profile failures of previous attempts at industrialization in developing countries from the 1950s through the 1970s. Particularly in Africa and Latin America, many industrial policies used by governments to support and protect infant industries failed because they were used inappropriately, with poor sequencing and were often driven by political considerations, nepotism or corruption, and not by economic analyses or strict efficiency grounds. In the cases of Latin America, often the industrial policies were kept in place too long, and were too inwardly focused on small domestic markets, neglecting the need to develop international competitiveness. In contrast, the structures of the political economy in several east Asian countries included institutions that tended to enforce stricter rules for which industries got subsidies and trade protection, and which got cut-off from them when they failed to meet performance targets (Chang 2005a; Robinson 2009). Yet, crucially, this history says more about *how* industrial policies should be implemented, not *whether* they should be implemented.

This ideological shift from proactive use of policies to support industrialization towards a reduced role for governments since the 1980s was equally dramatic in the universities. Important foundations, research institutes, think tanks and corporate textbook publishers began to reflect the new ideology of free markets, which eventually had a profound effect on the university curricula. Many economics departments and development studies programmes largely eliminated over time the history of the extensive use of industrial policies by the rich countries over the last few centuries, from the time of Henry VII in England in 1485 through the successful east Asian industrialization of the last 50 years, because it conflicted with the precepts of the new ideology. Instead, many students of economics and development in the last few decades have only been taught neo-classical free-trade theory and the efficient market hypothesis. Increasingly, students of economics only get taught mathematical models in the pursuit of elegant equations that are entirely devoid of the messiness of real-world contexts or 'externalities' such as politics and the facts of history. Indeed, many of today's central bankers and finance ministry officials throughout the developing world, who have gone to school at elite universities in the US and Europe, have tended to only learn neo-classical economic theory and returned home to try to implement it, even though such theory stands in stark contrast to what the rich countries actually did to industrialize successfully.

As the Norwegian historian of economic policies Erik Reinert (2007) has lamented, there is no discipline called the History of Economic Policies; instead, students learn quite well what Adam Smith said England should do, but they learn virtually nothing about what England actually did. Others, such as MIT's Alice Amsden (2001) and Cambridge's Ha-Joon Chang (2002), have attempted to resurrect this forgotten historical record, but today they are up against two or three generations who have only learned neo-classical free-trade theory. Nobel Laureate Joseph Stiglitz (2003) is aware of this phenomenon, and has advised developing country officials to similarly go back and learn this forgotten history: 'Don't do as the US tells you, do as the US did.' The loss of this history, the removal of the

fundamentals of development economics – transforming economies from primary agriculture into manufacturing and services – from the questions of foreign aid presents the major challenge for health advocates today. If today's students actually learned the history of industrial policies used successfully by the industrialized countries, perhaps health advocates and others would have a different view of development and how to enable countries to finance more of their own health needs themselves.

The subsequent record has shown that countries such as China, to some extent India, and regions such as east and south-east Asia, which did not adopt or fully adopt the Washington Consensus approach, experienced strong growth. They built up their domestic tax bases and managed to significantly reduce poverty levels, particularly in urban areas, by adopting proactive strategies towards employment creation and industrialization. While these successes have driven the aggregate global poverty levels down, not every region or country has recorded such progress, and there has generally been less poverty reduction and economic development in many other countries that have experienced little or no growth, generally in the areas that did adopt Washington Consensus policies. In fact, according to United Nations and World Bank data, the absolute number of poor people had gone up in the first decade of this century in several countries in sub-Saharan Africa, Latin America, the Middle East and northern Africa, as well as in central Asia. While achieving high economic growth rates is important, growth alone does not translate into successful development. Where some economic growth has occurred in developing countries, particularly the least developed countries, it has often been tied to price increases in global markets for their commodity exports – but has rarely translated into poverty reduction or national economic diversification into manufacturing and services. This has been especially the case when higher growth has been concentrated in extractive industries, which has not resulted in much job growth or structural change in productive capacities. Additionally, high or rising inequality within countries has undermined the potential poverty-reducing effects of growth where it has occurred (Mekay 2004; Chen and Ravallion 2008; UNDESA 2009).

'Poverty Reduction' Is Not Development

If health advocates ask what the basic indicators of economic 'development' had been a few decades earlier, and for much of the few preceding centuries, common understandings would have looked to employment and diversification and technological upgrading of production. The kinds of key questions asked were: are there more jobs and domestic companies in the formal sector (contributing to the tax base) than there used to be? Is the level of public investment as a per cent of GDP in health, education and transportation infrastructure by the government increasing or not? Are workers' wages as a per cent of GDP increasing or not? Are the core labour rights of unions and minimum wages being enforced or not? Is the

economy diversifying and moving from primary agriculture and extractives into new manufacturing and services industries or not? Not only are these kinds of questions no longer being considered in many foreign aid circles but if they were asked, the track record of many countries shows that the answers in many cases would be 'no' (NGLS 2010; ILO 2008).

Today's 'poverty reduction' discourse and the high-profile focus on getting more foreign aid for achieving the MDGs has created great confusion. For those subsumed in such rhetoric, it is almost as if 'poverty reduction' has come to mean the same thing as 'development'. If we don't have a working definition of development that includes the transformative process of industrialization over time, then what is 'development'? Is a country with improved human development indicators or that achieves the MDGs therefore 'developed'? Here the dominant 'poverty reduction' discourse presents an important dilemma. Some countries have scored some improvements on their poverty indicators, but can we say that countries are 'developing' successfully if they are not also increasing their levels of formal sector employment, if workers are not earning higher wages, if there are not more domestically owned companies engaged in increasingly diverse and productive activities and if the tax bases are not growing? Arguably not, but then again, the problem is that so few health advocates and others in the aid community are even asking.

There are, however, some interesting new cracks in the sanctity of the Washington Consensus policies, not least of which was offered by former Chairman of the US Federal Reserve, Alan Greenspan, who in 2008 conceded, 'I was wrong' about the efficient market hypothesis, which suggests that banks and financial institutions would not engage in excessively risky over-leveraging out of a sense of self-interest, thus there was no need for government regulation of the financial sector (Andrews 2008).

In the wake of the financial upheavals of 2008 and thereafter, research has shown that countries that went against International Monetary Fund (IMF) admonitions and used some type of capital controls actually weathered the crisis much better than those that had adopted the Washington Consensus dogma of liberalized open capital accounts. Indeed, to its credit, even the IMF has conceded such in recent staff papers that have found there may be some efficacy to such state intervention after all, something which would have been dismissed as pure heresy just a few years ago (Subramanian and Williamson 2009; Ostry 2010).

Equally compelling was former US President Bill Clinton's apology for having pushed premature trade liberalization on Haiti. In the mid-1990s, his administration along with the World Bank conditioned access to foreign aid on Haiti and dramatically cut its trade tariffs on imported US rice. Decades of inexpensive imports, especially rice from the US, destroyed local agriculture as domestic companies could not compete against the floods of cheaper imports. Such premature trade liberalization policies left impoverished countries such as Haiti unable to feed themselves and converted many former food-exporting countries into net food-importers. In March 2010 Clinton, then UN special envoy to Haiti, publicly apologized for having championed the free-trade policies that destroyed

Haiti's rice production. 'It may have been good for some of my farmers in Arkansas, but it has not worked. It was a mistake', Clinton told the US Senate Foreign Relations Committee. 'I had to live everyday with the consequences of the loss of capacity to produce a rice crop in Haiti to feed those people because of what I did; nobody else' (Katz 2010b). Unfortunately, while these fundamental lessons obviously extend far beyond Haiti, and far beyond agriculture, the idea that industrial policies such as trade protection may actually be useful for promoting jobs, domestic companies and economic development still remains lost on many of those currently engaged in debates about how to improve domestic health financing.

As with the entire set of Washington Consensus policies, the simple idea that trade liberalization at all times and in all places is good has taken on a life of its own and become enthroned as an end in itself, and unqualified free-trade theory has come to deeply influence foreign aid development policy. Yet such rapid, across-the-board, premature trade liberalization in Africa, Latin America and elsewhere since the 1980s has in fact led to the destruction of many existing industries, particularly of those that were at their early stages of development, entailing massive job losses without necessarily leading to the emergence of new ones. The free-trade mantra dictated that if early stage manufacturing industries in developing countries needed trade protection or subsidy support from their governments, then they were inefficient and not cost-effective, and amounted to a drag on public expenditure. The rule of the day had become: if an industry cannot survive on its own without government support, it *deserves* to go out of business. This is what students are being told today. And it is entirely ahistorical. The crucial fundamentals of 500 years of development economics history have been lost. As Reinert (2007) reminds us, today's free-markets doctrine neglects the simple idea that economic development is a transformative process that involves essentially learning by doing over time, and there is a stage in that process when it is better to have an inefficient industrial sector than no industrial sector at all. If a sector is inefficient, the thing to do is to help it become more efficient, not wipe it out.

According to estimates by the United Nations Conference of Trade and Development (UNCTAD 2005), total income losses for sub-Saharan Africa from trade liberalization amounted to USD270 billion over the past two decades – more than the total foreign aid received by the region. In striking contrast, the newly industrializing economies in China, India and east Asia have taken a much more gradual and selective path to trade liberalization, much as European countries, Japan and the US did in previous centuries, as part of a long-term industrial policy in which trade protection was lowered for certain industries only *after* they had reached a certain level of industrialization and development when firms were in a position to compete internationally (Amsden 2001; Chang 2002; Stiglitz 2003; Jomo and Reinert 2005). This UNCTAD report echoed many of other major United Nations and academic studies in raising concern about the failure of the Washington Consensus policy approach to achieve successful development outcomes in terms of increasing employment, increasing the numbers and diversity of domestically owned firms in the formal sector (that pay taxes), increasing the size of the tax base or the levels of long-term public investment as a per cent of GDP.

Rather than diversifying their economies, industrializing and growing their tax bases, the current free-trade model encourages poor countries to stick to exporting a few primary commodities and raw materials, but this has tended to trap countries into low levels of development and prioritizing the use of their domestic productive resources (including labour) for producing exports and generating an external surplus to be used for repaying foreign creditors, while reducing the left over resources that could otherwise be directed towards building domestic demand and domestic productive capacities (Kregel 2009). Consequently, many developing countries have been characterized by lingering high levels of high unemployment and under-employment, high illiteracy rates, a lack of economic diversification and development and insufficient tax bases which cannot adequately finance public health. The result has been worsening health outcomes amidst dilapidated public health infrastructure. Under these conditions, countries will clearly remain incapable of financing their own health needs. Therefore, global health advocates should see that they have much more than just a 'health sector financing problem', they have an entire 'development model' problem.

How IMF Policies Undermine Health Systems

In recent years, health advocates and donors alike have increasingly recognized the need for 'health systems strengthening (HSS)' in developing countries to undergird their other disease-specific efforts. Additionally, aid recipients are expected to devote greater domestic resources towards such HSS efforts, which will require scaled-up levels of public investment as a per cent of GDP. There is reason for concern, however, that countries will be unable to do this now for the same reasons they have chronically under-funded public investment for much of the last 30 years: to stay in compliance with the policy orthodoxy of the IMF, which has been based on strict fiscal policy (balanced budgets or very low budget deficits) and monetary policy (low inflation or so called 'price stability') targets. These targets are often set as binding conditions on loans from the IMF.

Although the IMF was originally designed to assist countries in the post-World War II era with managing their fixed exchange rates by providing funds and technical advice, its role changed when developed nations moved away from fixed exchange rates in the 1970s. With the inception of the 'Third World debt crisis' in 1982, the IMF was charged with a new mission of crisis management in developing countries, and in conducting the surveillance, financial and technical assistance. That assistance with policies, however, was informed by the Reagan and Thatcher governments in the early 1980s and their strong belief in the school of monetarism within neo-classical economics. Like other Washington Consensus policies, these tight fiscal and monetary policies came into ascendency during the 1980s and today go largely unchallenged, particularly among other rich donor countries. This 'signal effect', in which other donors defer to the assessments of the IMF, gives

the institution tremendous leverage and power over aid-dependent borrowing countries.

Since these conditions were first implemented in many developing countries in the 1980s, the IMF loan requirement for fiscal balance compelled governments to cut public expenditures, often with little regard for the composition of government expenditure. In most cases, the budget was brought to a balance or even surplus by cutting long-term public investment rather than by raising taxes. Consequently, there were precipitous declines in public investment in the early 1980s in both Latin America and Africa, the two regions which experienced growth slow-downs. Public investments have generally declined in Latin America since the debt crisis starting from around 1982, while the collapse in sub-Saharan Africa during the early and mid-1980s was reversed slightly before the decline continued, more gradually, in the 1990s (IMF 2004). The situation was made worse by the fact that declines in public investment were not matched by increases in private investment, as had been hoped, largely because of the IMF's emphasis on price stability.

Focusing on price stability was supposed to have created favourable conditions for private investment, capital inflows and exports, which should have spurred growth. However, both public and private investment has been adversely affected by the orthodox macro-economic policy framework of the past three decades, which has been focused on achieving low single-digit inflation rates (about 5 per cent), financial sector deregulation and the opening of the capital account, all of which usually involved raising real interest rates (UNCTAD 2006). This can undermine the goals of health advocates because high interest rates slow everything else down: they make credit less affordable for domestic industries, which are then less able to generate higher levels of productive capacity, employment and output than could be achieved under more expansionary fiscal and monetary policy options. This deprives governments of higher levels of tax revenues for both recurrent expenditures and, crucially, for long-term public investment. As this continues over time, the chronic lack of public investment generally, and in health systems in particular, can cause serious deterioration in health outcomes. In many cases this has been going on for 20 or 30 years, so by today the cumulative effect has been disastrous for public health financing. The IMF has indeed succeeded in lowering fiscal deficits and inflation, but at the cost of a long-term trend of low growth, low employment and low public investment that has been characterized by chronically insufficient health budgets and dilapidated health infrastructure.

This situation continues because the ideology of monetarism has become entrenched in the field of economics. Even in countries without strict IMF loan programmes, it is common to see these policies constraining otherwise higher public investment, because of the ideological biases that underpin conventional monetary policies. Many current finance ministry and central bank officials who have gone to school in the last 20–30 years have been taught one thing and one thing only: the only 'prudent' and 'sound' option for fiscal and monetary policies is the very conservative one favoured by the Reagan and Thatcher governments, which were steeped in the school of monetarism within neo-classical economics.

All other actually viable options that would allow for higher public investment have subsequently been dismissed as 'imprudent' or 'unsound'.

The real problem for global health advocates is that this ideology tosses their health goals into the rubbish bin, subordinating the things they need for better health financing (higher GDP growth, employment, tax-revenue generation and public investment) to the monetarist priorities of extreme fiscal austerity and price stability. While these goals have been achieved to the satisfaction of monetarists in most places, global health advocates are left wondering why the public health infrastructure in many developing countries is today crumbling and dilapidated due to a chronic lack of public investment (Roy et al. 2006) for much of the last 30 years. Or, as UNICEF (2010) put it recently: 'macroeconomic and expenditure decisions are often taken without an adequate analysis of their potential impacts in terms of employment, social development and inclusive and resilient growth.'

This concern was clearly articulated in a 2001 US Government Accountability Office (GAO) report on IMF loans that cautioned: 'Policies that are overly concerned with macroeconomic stability may turn out to be too austere, lowering economic growth from its optimal level and impeding progress on poverty reduction'(GAO 2001). This concern was also raised in a major 2005 World Bank retrospective on economic growth which concluded the IMF's effort to lower inflation may well have come at the cost of unnecessarily lower growth and tax-revenue generation, multiplied over many years (World Bank 2005, chapter 4).

The monetarist approach that has been taught uncritically in the economics profession for nearly 30 years actually has little empirical support in the economics literature. In fact, there is considerable countervailing research. While everyone agrees that high inflation is harmful and must be brought down, a false dichotomy has developed in which it is believed a country has either very low inflation or out-of-control hyperinflation, with a near total disregard for rates of moderate inflation that have historically (before the unquestioned ascendency of monetarism in the 1980s) co-existed with higher GDP growth rates in developing countries. The real economic policy problem is that interest rates are kept high in order to get inflation down, with devastating effects for growth, employment and public investment (Ball 1994; Cecchetti 1994; Thornton 1996).

Several major studies have tried to find the 'kink' in the inflation-growth relationship, for instance, the level at which inflation begins to hurt a country's long-term GDP growth rates, and the estimates range across the board. These include Pollin and Zhu (2005) between 14 and 16 per cent for MICs and LICs; Fischer (1993) between 15 and 30 per cent; Bruno (1995) below 20 per cent (Barro 1996); Sarel (1996) 8 per cent; Bruno and Easterly (1998) 40 per cent (Ghosh and Phillips 1998); Khan and Senhadji (2001) between 11 and 12 per cent for developing countries and 1–3 per cent for rich countries; Gylfason and Herbertsson (2001) between 10 and 20 per cent; and GAO (2009)[1] between 7 and 12 per cent. As can be seen, some studies

[1] This study concluded: 'Empirical evidence generally suggests inflation is detrimental to economic growth after it exceeds a critical threshold, which is broadly consistent with the inflation targets included in the IMF-supported programs reviewed.' However, this

find the danger point for inflation is between 15 and 30 per cent, as high as 40 per cent or as low as 7 per cent, and with several in between. Global health advocates should know about this range of estimates and also that, as Pollin and Zhu (2005) note: 'there is no justification for inflation-targeting policies as they are currently being practiced throughout the middle- and low-income countries' – whether a country has an IMF programme or not.

This was also the conclusion of the high-level 2008 Spence Commission on Growth and Development when it explained: '… very high inflation is clearly damaging to investment and growth. Bringing inflation down is also very costly in terms of lost output and employment. But how high is very high? Some countries have grown for long periods with persistent inflation of 15–30 per cent' (Spence 2008). Commission member Montek Singh Ahluwalia added:

> The international financial institutions, the IMF in particular, have tended to see public investment as a short-term stabilization issue, and failed to grasp its long-term growth consequences. If low-income countries are stuck in a low-level equilibrium, then putting constraints on their infrastructure spending may ensure they never take off. (36)

A 2007 study by the Center for Global Development similarly concluded: 'empirical evidence does not justify pushing inflation to these levels in low-income countries' (Goldsbrough 2007). The House Financial Services Committee of the US Congress wrote to the IMF in 2007: 'We are concerned by the IMF's adherence to overly rigid macroeconomic targets,' [and] 'it is particularly troubling to us that the IMF's policy positions do not reflect any consensus view among economists on appropriate inflation targets' (Financial Services 2007). Further, the CGD report found that, 'the IMF has not done enough to explore more expansionary, but still feasible, options for greater fiscal space'. The real problem for global health advocates is that those 'more expansionary, but still feasible, options for greater fiscal space', are precisely the ones often derided as 'imprudent' and 'unsound' by major university economics departments that have so effectively trained many of the world's finance and central bank officials.

This is why such 'tight' fiscal and monetary policies are often applied even in those countries which may not currently have active IMF loan programmes:

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judgement is based on comparing IMF targets to only six studies in the economic literature. Despite listing 16 papers in the bibliography, the GAO only analysed nine studies published since 1999, eliminating several of the major works listed above because they were published before 1999, after which, it asserts, economists were better able to account for the 'nonlinear relationship between inflation and growth'. To judge the IMF targets as consistent with the economics literature, they further eliminated three of the nine remaining studies 'since two of the three estimates outside the 5–12 per cent range are likely due to methodological issues and the remaining estimate (17 per cent) is from a June 2009 study that addresses a number of the methodological issues in the existing literature, but has not been peer reviewed'. Despite the high claims in the report's title, buried in a footnote is the admission that 'this exercise is not meant to imply that literature is conclusive'.

it is the underlying ideology which has been singularly taught in economics programmes in an unquestioned way for nearly 30 years and informs the general thinking in central banks and finance ministries generally. But the IMF remains the largest symbolic and actual purveyor of such an approach. As the United Nations Department of Economic and Social Affairs (UNDESA 2009) explained about the current popular macro-economic framework that subordinates higher growth, employment and public investment (in health) to price stability and fiscal austerity:

> Focusing on inflation and fiscal deficits alone reflects too narrow a view of stabilization. Therefore, stabilization needs to be defined more broadly to include stability of the real economy, with smoothened business cycles and reduced fluctuations of output, investment, employment and incomes. Achieving such stability of the real economy may require larger fiscal deficits and higher rates of inflation than prescribed by the conventional macroeconomic policy mix, especially in the face of economic shocks or natural calamities.

As long as the IMF remains the major enforcer of monetarist policies that block meaningful HSS or the hiring of the necessary health workforces, health advocates can be counted on to continue criticizing the IMF for undermining domestic capacities for health financing. This is why it is imperative for global health advocates who are interested in increasing the overall size of the domestic tax base – whether for health financing or anything else – not only to question the overall development model generally, but also to question this current monetarist orthodoxy that keeps governments from generating higher degrees of taxation and public investment. They should explore and support the adoption of alternative and more expansionary fiscal and monetary policy options, such as those advocated by Epstein (2009).

Advocates for Health must Become Advocates for a New Development Model

As these changes with the development model unfolded towards using foreign aid to narrowly focus on alleviating the symptoms of poverty, global public health advocates, including HIV/AIDS activists, have largely tended to view health-financing problems within the confines of the health sector alone, separated from other ongoing economic issues within developing countries, and have regularly called for more foreign aid for health while largely neglecting ways to mobilize more resources domestically.

While supporting calls to achieve the MDGs[2], health advocates must also consider calling for much more proactive national economic development strategies that would enable countries to effectively focus on increasing employment, building domestically owned firms, advancing and diversifying domestic productive capacities and increasing public investment to the degrees necessary to increase the domestic tax base over time and truly foster economic development. While foreign aid will continue to be important for many countries, it is not likely to be sufficient for enabling countries to make their own long-term public investments that will be needed to adequately and equitably meet health and other human development needs over the long-run. It is time for a serious re-think of the current development model, particularly as the global economic crisis leads to new cutbacks in foreign aid budgets, and this re-thinking must include global health advocates.

Although the theoretical basis for the free-trade/free-market policies of the Washington Consensus continues to be uncritically accepted by many foreign aid and donor agencies, influential think tanks, media outlets and university economics departments, its failure to achieve broader economic development successes in much of the developing world under such policies, combined with failure of the financial liberalization model so evident in the recent global financial crisis, has helped to inspire new thinking.

Along these lines, advocates should consider following the lead of the 2008 report of the Commission on the Social Determinants of Health (CSDH; see Chapter 13), which examined a much broader set of economic policies and called on health advocates to take a more comprehensive view of development issues as they affect health and health financing. Among its many recommendations, the report called for reduced dependence on external capital through effective financial sector regulation, the appropriate use of capital controls and measures to mobilize and retain domestic capital; greater use of trade protection to avoid 'dumping' of foreign products in low- and middle-income country markets at prices below their cost of production; an improvement in labour standards and upward convergence with other countries over time; reduced reliance on export markets through promotion of the production of goods for the domestic market; greatly increased emphasis on special and differential treatment for low- and middle-income countries in future WTO Agreements; and stronger safe-guard provisions in WTO Agreements (and bilateral and trade agreements) with respect to public health. It concluded that, 'most of these measures require action at the international level – either discretionary changes by individual governments (in the case of increases in, or changes in the conditions attached to, donor support) or collective action mediated by international institutions' (Commission on Social Determinants of Health 2008).

Going beyond the specific measures listed in the report, however, it is incumbent upon health advocates to stand back and engage in a broader re-thinking of the entire development model. Calling on donor governments to increase their foreign

[2] Editor's note: and whatever comparable objectives may be established for development post-2015.

aid levels is absolutely essential. But health advocates in the rich countries must also call on their representatives at the IMF and World Bank executive boards to modify the Washington Consensus-type policy reforms that are attached as loan conditions and call on their trade ministries to modify the trade and investment agreements being negotiated with developing countries that lock such policies into place. Industrial policies must be encouraged and supported, not outlawed. Monetary policies must increase employment, growth and public investment, not constrain them.

Perhaps nowhere is such advocacy work more important than in the United States, where citizens must call on the US Treasury Department, and the Congressional committees that oversee it, to take steps to get such policy prescriptions changed at the IMF and World Bank, and the Office of the United States Trade Representative to stop including such policies in the many bilateral and regional trade and investment treaties it is negotiating with developing countries.

Among several ideas submitted in a special report by the United Nations Non-Governmental Liaison Service to the UN Secretary General in advance of the major review of the MDGs summit in New York in September 2010 was the imperative to move rapidly away from the Washington Consensus policies. Instead, the NGLS report calls for supporting policy makers in developing countries with greater leeway to experiment with a broader range of policy alternatives, or what is called 'policy space', and build their capacities to pursue 'forward-looking macroeconomic policies' to foster a more 'employment-centered growth and development model' (NGLS 2010). Global health advocates interested in realizing increased domestic financing for the health-related MDGs and other health goals should take notice and support such a new approach as well.

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Taking Social Determinants of Health Seriously

Ruth Bell, Sharon Friel and Michael Marmot

Introduction

Global health has grown in prominence in international diplomacy, with increasing recognition that health is inseparable from development, security and social justice (Labonté and Gagnon 2010; Kickbusch 2011). The worldwide distribution of health and illness is characterized by inequities, both between countries and within countries (Commission on Social Determinants of Health 2008). Any attempt to improve global health must then take steps to address health inequities, and actions must be guided by an understanding of the root causes of health inequities. These root causes are widely understood as the social determinants of health (SDH) and broadly described by the Commission on Social Determinants of Health (CSDH) as the conditions in which people are born, grow, live, work and age, and the structural drivers of those conditions, the distribution of power, money and resources. 'Social determinants' therefore encompasses political, social, economic, cultural and environmental influences on health. In this chapter, we examine the rise of SDH as a policy approach to global public health; we outline the findings and influence of the CSDH; and we explore prospects and uncertainties in taking forward the social determinants of health agenda.

SDH in Public Health: Recent Historical Perspective

Knowledge about the SDH has been an influential current running through public health action over time, sometimes surfacing and demanding to be taken seriously, and at other times and places submerged or overtaken by vital but more narrowly focused approaches based on medical care, lifestyles or health-related behaviours and concern with the development and funding of healthcare systems. The rise and fall and rise again of SDH as a paradigm for action in public health in the twentieth

century reflected global political influences and the rapid pace of technological advance (Irwin and Scali 2005). The CSDH, established by the World Health Organization (WHO) in 2005, heralded a significant re-invigoration of interest in the SDH within the WHO, and within public health at large (Bell et al. 2010; Friel and Marmot 2011). The CSDH sought to focus attention on the SDH at policy level within countries and globally, to improve health and to improve the distribution of health. In his address to the World Health Assembly in 2004, then-WHO Director General Lee Jong-Wook announced his intention to set up the CSDH: '[T]he goal is not an academic exercise, but to marshal scientific evidence as a lever for policy change – aiming toward practical uptake among policy makers and stakeholders in countries' (Jong-Wook 2004). The goal of the CSDH was to embed SDH into policy development at the global, national and local level, across all areas of policy making – an ambitious and long-term agenda.

The SDH were not a new idea. Social determinants are written into the WHO's constitution adopted by the International Health Conference in 1946, as one of WHO's functions: 'to promote, in co-operation with other specialized agencies where necessary, the improvement of nutrition, housing, sanitation, recreation, economic or working conditions and other aspects of environmental hygiene'(International Health Conference 1946). Prominent among the basic tenets within the WHO's constitution is the principle that: 'Governments have a responsibility for the health of their peoples which can be fulfilled only by the provision of adequate health and social measures' (International Health Conference 1946).

SDH were de-emphasized during the 1950s when the pre-eminent drive was to eliminate and eradicate selected infectious diseases through interventions targeted at specific diseases (Irwin and Scali 2005). Eradication of smallpox by 1977 was a major achievement. Yet it became increasingly clear during the late 1960s and 1970s that approaches to infectious disease control and elimination needed community participation and community-based approaches in order to have sustainable public health benefits (Irwin and Scali 2005). Advocates in a number of countries brought about a re-emergence of understanding about the importance of social determinants in public health which formalized into the WHO's Health for All agenda in the 1970s, and culminated in the Alma Ata conference and declaration in 1978.

The vision expressed at Alma Ata was to attain a level of health for all people that enables them 'to lead a socially and economically productive life' by the year 2000 (WHO 1978). The Alma Ata declaration called for 'coordinated efforts' across sectors to achieve health for all, and the implementation of universal primary health care that is responsive to needs of the community, involves the community and individuals as active participants in planning and implementation, and includes improvements in the conditions of daily life, such as nutritious food, safe water and sanitation (WHO 1978). This vision galvanized public health workers around the world. Yet, in the years that followed, implementation of the Alma Ata agenda and the Primary Health Care Strategy was partial and patchy. Dr Halfdan Mahler, WHO's inspirational Director General at the time of Alma Ata, recalled the reasons 30 years later in a speech to the World Health Assembly:

> Most donors, after an initial outburst of enthusiasm quickly lost interest or distorted the very essence of the Alma-Ata Health for All Vision and Primary Health Care Strategy under the ominous name of selective primary health care which broadly reflected the biases of national and international donors and not the needs and demands of developing countries. (Mahler 2008)

Implementation of Alma Ata foundered during the 1980s in an era of politically motivated market liberalization in which the paradigm of health as a private issue predominated, but the vision of Alma Ata persisted. Advocates of Health for All remained active in social movements in countries around the world.

The Alma Ata Declaration and WHO's global strategy on Health for All set the scene for fresh thinking about how health is created. The international WHO conference in Ottawa, Canada in November 1986, brought these ideas together in discussions that focused on the conditions and resources required for health (Kickbusch 2003b; Catford 2007). These discussions crystallized in the landmark Ottawa Charter on Health Promotion (1986) which identified 'peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice, and equity' as 'prerequisites for health' (World Health Organization Charter 1986). The Ottawa Charter further advocated that health should be put 'on the agenda of policy makers in all sectors and at all levels'.

Other voices questioned the capacity of the health community to improve health through action outside the health sector. The World Health Report 1999 quoted from a WHO Committee Report, which on one hand emphasized the importance of what it called 'multisectoral determinants of health', while on the other hand asserted that this is not the health community's core business: ' … the health community has limited capacity for direct action outside the health sector – and limited credibility. It will make more of a difference if it focuses its energy, expertise and resources on ensuring that health systems efficiently deliver the powerful interventions provided by modern science' (WHO 1999).[1]

Concern for health, poverty and development was taken up increasingly by social movements around the world who contributed to the call for governments to take action. Responding to this shift in the global zeitgeist, participants representing the global community at a meeting at the United Nations headquarters in New York in September 2000 took the turn of the millennium as an opportunity to reaffirm commitment to the Charter of the United Nations and the values of freedom, equality, solidarity, tolerance, respect for nature and shared responsibility that it enshrines. The UN Millennium Declaration identified a range of objectives, with targets that could be measured and monitored over time, and which aimed to apply these values through action. These objectives included reducing the proportion of people living in extreme poverty and suffering from hunger, achieving universal primary education, eliminating gender disparity in education, reducing infant and

[1] *1999 World Health Report*: Box 1.1, available at: http://www.who.int/whr/1999/en/whr99_en.pdf.

child mortality, improving maternal health, tackling HIV/AIDS, malaria and other diseases, improving access to safe water and improved sanitation and developing a global partnership for development.

Several of the Millennium Development Goals (MDGs) were directly related to health, and others relate to SDH. The MDGs showed an unprecedented degree of common purpose, and identified the need for global concern and action on health and development issues. But the indicators for monitoring progress, such as changes in mortality among children less than five years old, were expressed as population averages, masking socioeconomic inequalities within countries (Gwatkin et al. 2007). Findings from surveys in low- and middle-income countries, including the Demographic and Health Surveys, demonstrated the need to monitor progress in health using data disaggregated, for example, by household wealth, maternal education and rural/urban place of residence. In addition non-communicable diseases, responsible for 60 per cent of deaths globally, were absent from the goals (on non-communicable diseases in global health policy, see Chapter 3).

The Commission on Macroeconomics and Health (CMH 2001), convened by WHO between January 2000 and December 2001, took the view that investments in health, especially in interventions to tackle HIV/AIDS, TB, malaria and other diseases, would contribute to economic development and poverty reduction. The CMH alongside other important initiatives succeeded in levering increased funding into global health, notably for HIV/AIDS, TB and malaria and for increased availability of vaccines and immunization in developing countries. Yet it was apparent to many in public health that a growing body of evidence for a causal link between socioeconomic circumstances and health had important implications for policy, which needed to be more widely considered and acted upon. Sir Michael Marmot advocated the need to understand and implement political action on the 'causes of the causes' (Marmot 2005), a phrase borrowed from the English epidemiologist Geoffrey Rose based on concepts developed in his seminal book *The Strategy of Preventive Medicine* (1992). Epidemiological data showed that while in many countries overall health outcomes were improving, this was not the case for all countries, and that there were health inequities both between and within countries (Marmot 2005). In well-researched cases the health gap within countries was growing, as noted most egregiously among men in Russia during the period of social disruption that took place after the collapse of the Soviet Union. During the 1990s in Russia there was a sharp increase in mortality in Russia which did not affect all social groups equally (Murphy et al. 2006); for example, a study on men in St Petersburg showed that the greatest increase in mortality was among those with less than high school education (Plavinski et al. 2003), resulting in a widening of the gap in life expectancy across the social hierarchy.

It was evident too that unprecedented economic gains – the promised prize of market liberalization, deregulation and opening up of global trade – were shared unequally within and between countries; this was likely to affect living and working conditions, and certainly to drive exclusionary processes with consequent effects on health and health inequities. Evidence from the Demographic and Health Surveys showed that even basic medical interventions put in place to improve

health in developing countries were not reaching the poor (Gwatkin et al. 2005). There were sustained and insistent calls for action on the social determinants from the People's Health Movement (Narayan 2006). In addition, awareness that non-communicable diseases, widely held to be diseases of affluent societies, had become a major contributor to disability and death in low- and middle-income countries (WHO 2005b) provided further impetus. SDH emerged as the missing piece of the puzzle to improve health outcomes, and in many ways complementary to the MDGs, Poverty Reduction Strategy Papers and attempts to improve health systems.

It was a propitious time for the recently (2003) appointed Director General of WHO, Dr Wook, to set up the CSDH. The Commission was structured with a view to building global networks of diverse actors that would contribute to the evidence base, advocate for action and implement action on the SDH through a partnership of topic based knowledge networks, civil society groups and policy makers and advisers within countries (Commission on Social Determinants of Health 2007). The aim was to invigorate a strong constituency for a sustainable global movement to achieve health equity. The work of the Commission, chaired by Sir Michael Marmot, was guided by a group of commissioners including individuals who were influential in global and national policy making, eminent academics and leaders of civil society from around the world (Bell, Taylor and Marmot 2010; Friel and Marmot 2011).

Making the Case for Action on Social Determinants of Health

From the beginning, the CSDH sought to stimulate wide societal and interdisciplinary debate about and action on the SDH to improve overall population health, improve the distribution of health and reduce disadvantage due to ill health. It was concerned with inequalities both between countries and within countries. This concern meant that the CSDH findings, rather than focusing on developing countries as the MDGs and the CMH had done, would be relevant globally, to countries at all stages of development, as all countries experience health inequities or unequal distribution of health, by measures of socioeconomic position, gender, ethnicity and geographical region, albeit in ways that depend on regional, national and local political, socioeconomic and cultural contexts and history. In addition, the CSDH emphasized that countries can learn much from each other about how to develop policies and programmes to tackle health inequities, and that countries need to act cooperatively, since many of the influences on health operate at the trans-national level and require bilateral or multi-lateral agreements to tackle them effectively.

The CSDH made the case that taking action on the SDH to reduce health inequities is a matter of social justice; it said that where systematic inequalities in

health are avoidable by reasonable means, but are not avoided, they are inequitable. Action on the SDH to achieve health equity, the absence of systematic inequalities in health that are avoidable by reasonable means, overlaps with action to achieve other desirable goals such as improved education, sustainable development and social cohesion. On this basis, the CSDH explicitly sought to mobilize a global movement for health equity. It was always aware that it was not sufficient to publish a final report, sit back and expect action to happen. Countries and civil society organizations who were partners throughout the CSDH helped to spread the global movement in a variety of ways, including holding consultation meetings and policy dialogues, as well as through policy development.

The CSDH collated and analysed evidence to show the effects of exclusionary processes, disadvantage and social inequalities on health inequities within and between countries.[2] Within countries, health inequities frequently manifest as a gradient in health that runs across the social hierarchy. Under-five mortality follows this pattern in a number of developing countries as shown in Figure 13.1.

The social gradient is also seen in developed countries. Paula Braveman and colleagues, for a study by the Robert Wood Johnson Foundation to the Commission

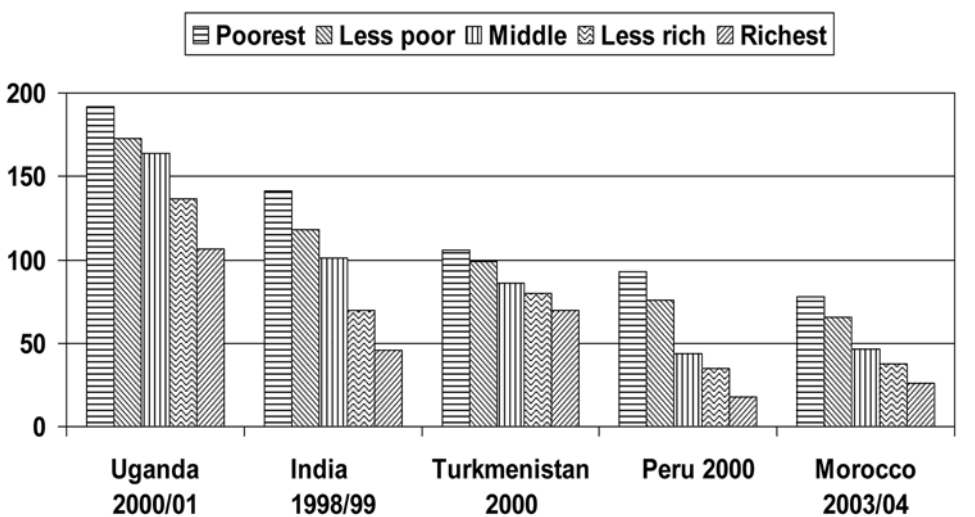

Figure 13.1 Under-5 mortality rate per 1,000 live births by level of household wealth

Source: Commission on Social Determinants of Health (2008, 30) using data from Gwatkin, Rutstein, Johnson et al. 2007. Reprinted with permission.

[2] Reports to the CSDH from the topic-based knowledge networks, civil society partners and country partners are available at: http://www.who.int/social_determinants/publications/en/.

to Build a Healthier America, reported data that showed that in America, men and women with more education, or with greater income, have longer life expectancy at age 25 (Braveman et al. 2011). Figure 13.2 shows the gradient in life expectancy at age 25 for men and women by years of education. Men with college education have seven years longer to live at age 25 than men who have not finished high school. For women the difference is five years. A similar gradient for life expectancy is seen in men and women by income (Braveman et al. 2011).

The CSDH summarized the root causes of health inequities as follows:

> [T]he conditions in which people are born, grow, live, work, and age – conditions that together provide the freedom people need to live lives they value … Poor and unequal living conditions are, in their turn, the consequence of deeper structural conditions that together fashion the way societies are organized – poor social policies and programmes, unfair economic arrangements, and bad politics. These 'structural drivers' operate within countries under the authority of governments, but also, increasingly over the last century and a half, between countries under the effects of globalization. This toxic combination of bad policies, economics, and politics is, in large measure, responsible for the fact that a majority of people in the world

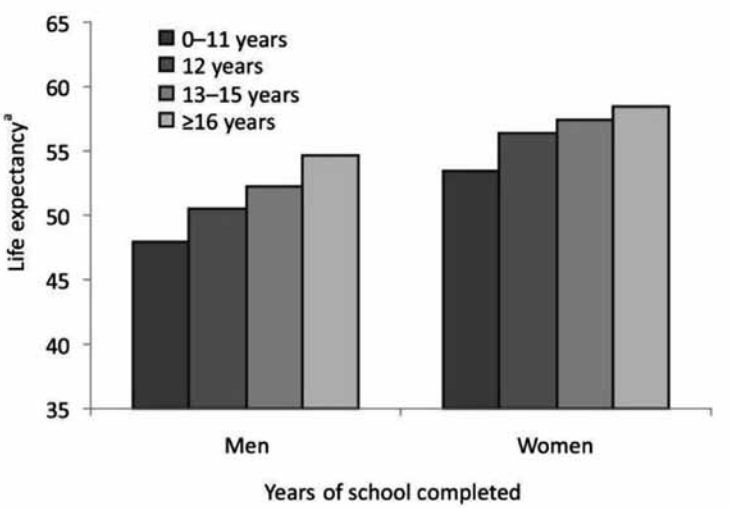

Figure 13.2 Life expectancy at age 25 by years of education, men and women, United States

[a] Number of additional years of life expected at age 25 years.

Source: Braveman, Egerter and Mockenhaupt, 2011, data from US Census Bureau. National Longitudinal Mortality Study (NLMS), 1988–98. www.census.gov/nlms/index.html. Reprinted with permission from Elsevier.

> do not enjoy the good health that is biologically possible. Daily living conditions, themselves the result of these structural drivers, together constitute the social determinants of health. (Commission on Social Determinants of Health 2008)

The CSDH showed that health inequities are not inevitable or immutable, since they vary between countries, within countries by region and over time, demonstrating that health inequities are remediable to a considerable extent by appropriate policy action. Notably, the gradient in health pointed to action that focused both on the bottom of the gradient, to improve the conditions of the worst off and also across the gradient, to improve conditions for health across the whole of society.

Analysis of the evidence led the CSDH to emphasize empowerment across three dimensions as essential elements in building health equity: material, having the material resources for a healthy life; psychosocial, having control over one's life; and political, having political voice and agency – at the level of individuals, communities and whole counties. Three principles for action guided the CSDH final recommendations (2008):

1. improve the conditions of daily life – the circumstances in which people are born, grow, live, work and age;
2. tackle the inequitable distribution of power, money, and resources – the structural drivers of those conditions of daily life – globally, nationally and locally; and
3. measure the problem, evaluate action, expand the knowledge base, develop a workforce that is trained in the SDH and raise public awareness about the social determinants of health.

More detailed recommendations were made across 12 areas: early child development and education, healthy urban and rural development, fair employment and decent work, social protection across the life course, universal health care, health equity in all policies, systems and programmes, fair financing for action on the SDH for health equity, market responsibility, gender equity, political empowerment – inclusion and voice, good global governance and monitoring, training and research on SDH and health equity.

The CSDH recommendations, while based on specific evidence and case studies, were necessarily broad; the aim was to provide evidence for action and recommendations that could be translated by countries for use in tackling SDH and health inequities that they themselves identify as priority areas. The CSDH resisted calls to prioritize its recommendations on the basis that action on SDH requires a multi-sectoral approach across the whole of society acting for a common purpose, and that priorities need to be assessed and agreed at national or local level according to conditions pertaining in the area at the time. In addition, the recommendations needed to speak to a range of global, national and local organizations and institutions, both governmental and non-governmental, within

both public and the private sector, whose actions impact social determinants and health outcomes either directly or indirectly through a chain of events. The unifying element throughout the CSDH recommendations is the notion that health equity should be at the heart of all decision making, in other words that all levels of decision making should consider their effects on the distribution of the determinants of health and on the distribution of health. A corollary of this is that health, and the distribution of health is a 'social accountant': if we know how well health is distributed across society we know how well a society is doing.

Responses to the CSDH Report and Recommendations

It was an extraordinary synchronicity that the CSDH report, which called for fair financing, market responsibility and good global governance, was published in August 2008 just as the most serious global financial crisis since the 1930s broke. It is possible to see that the roots of the 2008 financial crisis are associated with the same imbalances in power, resulting in lack of market responsibility and unsatisfactory governance of markets, that had energized the work of the CSDH. Rich countries and people within them have greater power and resources to influence the rules of globalization that control market liberalization and regulation that ultimately influence the lives that all people around the world are able to lead (Labonté et al. 2007). The effects of the financial crisis highlighted how inter-connected the world has become. But the response to the financial crisis has been dominated by an attempt to return to business as usual, rather than a unified attempt to address the processes that caused the crisis in the first place, as the CSDH advocated. Economic recovery, not health equity, holds sway in discussions at the World Economic Forum, G8 and G20 meetings and the International Monetary Fund. But the voice of health is becoming stronger in international affairs (see Chapter 11).

Dr Margaret Chan, Dr Wook's successor as WHO Director General, strongly endorsed the CSDH report and recommendations, saying in her speech at the report's launch in August 2008 that 'by focusing on the upstream causes of ill health, the report opens powerful new opportunities for prevention' (Chan 2008). The CSDH achieved a unanimous resolution at the World Health Assembly (WHA) in 2009, which called upon the international community and member states to tackle health inequities within and between countries through policies and programmes that address the SDH, and to mainstream health equity in all policies (WHO 2009b). The adoption of a resolution by the WHA marked a significant acceptance by the international community of the importance of the issues and recommendations made by the CSDH, but in itself does not oblige countries to implement the recommendations. Indeed there is an often wide and much debated gap between what is known about the 'causes of the causes' of health inequity, made evident by the CSDH, and implementation of action to tackle them in countries and regions with very different political, socioeconomic, cultural and environmental conditions.

In the United Kingdom, where action to tackle health inequities became a government priority after the report of the Acheson Inquiry into Inequalities in Health (Acheson 1998), the government set up a review of health inequalities in 2009, chaired by Sir Michael Marmot, that looked at what the CSDH recommendations meant in the context of England. The Marmot Review was set up during a period of economic strain brought about by the financial crisis, which contributed to the urgency of its work. This review set about its work by bringing together expert groups to gather the latest evidence on the distribution of health and the SDH in England, in a way that drew from the CSDH process, but that ensured relevance to conditions prevalent in England and the UK at the time. There were nine task groups: early child development and education; employment arrangements and working conditions, social protection, the built environment, sustainable development, economic analysis, delivery systems and mechanisms, priority public health conditions and social inclusion and social mobility. Measurement and monitoring, one of the CSDH's three overarching principles of action, was a core part of the Marmot Review's work; it convened a group to assess the new evidence identified by the task groups and advise on what data sources could be used or developed to measure progress and set targets in the short, medium and long term. A third strand of work looked at how the new evidence could be translated into realistic policy recommendations and assessed how action could be put in place across different levels of government.[3]

The review assessed what lessons could be learned from previous policies and programmes introduced in the UK since the Acheson report to tackle health inequities (Hunter et al. 2009). Chiefly, the analysis showed that policies and programmes to reduce health inequities had not systematically addressed the SDH; rather, there was a tendency for interventions to focus on small-scale projects that target individual behaviours and lifestyle. There was also a tendency to focus on medical interventions, and insufficient investment in ill health prevention. In addition, there was a lack of attention on the social gradient in health, and a tendency to focus on the worst off rather than to take action proportionate to need across the social gradient. At the same time, there was insufficient policy coherence across sectors, that is failure to 'join up' action between, for example education, employment and health sectors. This failure was connected with a lack of explicit recognition that policies in sectors other than health affect health and health inequities, as well as with the different organizational goals and processes across sectors. In addition, while the economy was booming, the tax and benefit system was not sufficiently progressive to prevent social inequalities widening (National Equality Panel 2010).

The Marmot Review published its final report and recommendations under the title *Fair Society, Healthy Lives* with recommendations in six domains: early child development; education, lifelong learning and giving people the capabilities to take control over their lives; fair employment and working conditions; ensuring

[3] Reports for the Marmot Review are available at: http://instituteofhealthequity.org.

that everyone has at least the minimum income needed for healthy living; healthy and sustainable places and communities; ill health prevention.

The Marmot Review reported a few months before a change in government in the UK. The incoming Conservative–Liberal Democrat coalition government welcomed many aspects of the Marmot Review in 2010. The new government's Public Health White Paper, which laid out its strategy for public health, accepted the need to address the SDH and recognized that disadvantage accumulates over a lifetime and has intergenerational effects (HM Government 2010). It also noted the importance of the social gradient and approved the notion of proportionate universalism advanced by the Marmot Review – that services should be universal but 'delivered with an intensity that is proportionate to the level of disadvantage'(Marmot Review 2010). A core element of the strategy emphasized 'localism' – putting control of public health into partnerships between local authorities and public health. While many in public health welcomed this restructuring, they also expressed concern that it was happening at a time when local authorities were facing cuts of up to 28 per cent in their budgets over four years, as a response to the financial crisis. It was likely that such severe financial constraints would impact adversely on the ability of local governments to deliver services that support the reduction of health inequities, and that inspired leadership and innovative approaches appropriate to local settings would be of critical importance if progress was to be made.

While the health inequities agenda was familiar to those working in government at both the national and the local level, the Marmot Review report and the recommendations were welcomed particularly by those working at local levels; it identified many of the issues with which they had been grappling and laid out a framework for action that resonated with them and was practical and deliverable. Within one year of publication of the Marmot Review, around 30 local authorities, cities or regions in the UK began developing health inequalities strategies based on its recommendations.

The favourable response from national and local governments to the Marmot Review is encouraging, but concerns remain that the macroeconomic situation, fallout from the financial crisis, and the restructuring of public services in times of austerity will hinder attempts to tackle health inequities in the UK. Added to this is the concern that the government's focus on applying the techniques of behavioural economics, or 'nudges', to behaviour change might be a tempting short term substitute for efforts to address more politically challenging long-term structural determinants of health, which include poverty and social inequality. While acknowledging these concerns, there is much enthusiasm for the social determinants agenda within the UK, not only within central and local government, but also within professional medical organizations, such as the British Medical Association and the Royal Colleges, and among third sector organizations.

The effects of the financial crisis and the effects of governments' responses to it added impetus to research on the drivers of health inequities and research on the most appropriate approaches, policies and programmes to tackle them. The European Union published a communication, 'Solidarity in health: reducing health inequalities in the EU', expressing the centrality of reducing health inequalities

within Europe and laying out a framework for action (European Commission 2009). Within the European Union a significant strand of funding is being made available for capacity building and research on SDH through the European Commission seventh Framework Programme in support of the objectives of the Lisbon Treaty. The Spanish presidency of the EU in the first half of 2010 gave emphasis to equity in health, seeking to promote health equity as a vital component of good governance.

In the wider European region the WHO European Regional Office, which covers 53 countries and 890 million people, established a European Review of Social Determinants of Health and the Health Divide, and a parallel study of governance to inform its strategy for public health, Health 2020. Partnerships developed during these processes aim to further the initiation and implementation of policies and programmes to act on the SDH to reduce health inequities. In the Asia Pacific region, home to more than half of the world's population, a network of academics, policymakers and leaders from non-government organizations in collaboration with the western Pacific office of WHO undertook an Asia Pacific Review of action in the social and environmental determinants of health equity (HealthGAEN 2011). Lessons learned from these reviews will be relevant to countries and regions around the world as they struggle with the issues of health inequities.

The findings of the CSDH were broadly debated at policy fora in all regions of the world, among policy makers, the private sector and non-governmental organizations. Policy initiatives to address health inequities through action on the SDH are developing at all levels of governance, from whole continents to moderate sized cities, for example, through the WHO's Healthy Cities initiative. The Pan American Health Organization, the Regional Office of the WHO for the whole of the Americas, has committed to make the SDH part of their future health strategy. As an example of city level action, the city of Malmo in Sweden has set up its own Commission for a sustainable Malmo, as a direct response to the CSDH, and aims to apply the CSDH's findings to improving health in Malmo.

The Adelaide Statement on Health in All Policies has provided further conceptual development to guide intersectoral action for health. The statement stemmed from an international meeting on health in all policies, organized by WHO and the Government of South Australia, held in Adelaide in April 2010. It emphasizes that a new form of governance is needed to facilitate the development of strategic plans across government departments to articulate 'common goals, integrated responses and increased accountability' and it identifies tools and instruments that have been useful in implementing the 'health in all policies' approach (WHO 2010a).

Equity has become central to discussions across the multi-lateral institutions beyond WHO. Increased availability and use of disaggregated data has facilitated these discussions. WHO is moving towards greater reporting of data disaggregated by sex, location (urban/rural), by major regions, by province (or similar level), by education level and by wealth quintile, where available (WHO 2009c). The UNDP's Human Development Report of 2010 introduced three measures that highlight inequalities in a development framework: the Inequality-adjusted Human Development Index, the Gender Inequality Index and the Multidimensional

Poverty Index. The 2011 Human Development Report focuses on the need for greater equity in resolving the global challenge of environmental degradation.

Future Prospects and Uncertainties in Taking Forward the Social Determinants of Health Agenda

At this writing (mid-2011) we are optimistic about the prospects for the initiatives, some of which we have described above, that are driving the SDH agenda forward in a range of contexts. That said, the ebb and flow of social determinants as a paradigm for public health action in the twentieth century leads us to believe that public health needs to make the case for action on the SDH not just within public health, but within influential global economic and political fora. Where political will for action on the SDH to reduce health inequities exists, there needs to be commitment to act at appropriate levels of government, there need to be tools, instruments and mechanisms for implementation, as described in the Adelaide Statement (WHO 2010a) and action needs to be of sufficient intensity and scale to make a difference (Marmot Review 2010).

The CSDH's recommendations were based on evidence and guided by an analytical causal framework that positions health inequities as outcomes of differential conditions of daily life which are themselves shaped by political, social and economic conditions together with social and cultural norms and values. This conceptualizing of the causes of health inequities draws on previous work and while there are many variations in representation, for example, which elements are included and how they are connected, the overall direction of causation has become the dominant paradigm of study in social epidemiology (Solar and Irwin 2007). Influential economists question the evidence on the flow of causation, and publish evidence that the direction of causation is in the opposite direction, from health to socioeconomic conditions (Marmot 2009). These lines of thought map on to the differing intellectual and disciplinary traditions between social epidemiology and economics. Economists' arguments can be parried with good evidence from social epidemiology of the impact of political and socioeconomic factors on population health (Marmot et al. 2010). For instance, the divergence in health outcomes among middle aged men in Russia took place after the collapse of the Soviet Union, a period of political, social and economic upheaval (Cornia and Paniccià, eds 2000; Murphy et al. 2006; Leon et al. 2007). This is not to say that health has no effect on economic circumstances at both individual and national level, but rather, that if we are interested in health (and health equity) as an outcome we need to look at how health is created in the first place.

The way of thinking that puts health (and health equity) as an outcome, rather than a means to the outcome of economic growth is potentially transformational. In current practice, politics is often conducted as if economics has all the best arguments. But while economic growth is highly desirable, its value is in that it

enables the creation of living standards conducive to health and wellbeing for everyone in society. Economic growth is a catalyst for the availability of 'goods', which includes good health, for the benefit of society. Where large proportions of society are excluded from enjoying the health and wellbeing available to the best off in society it is clear that society is failing in some signal respect. Influential economic thinking has developed to consider happiness and wellbeing as important goals within society (Layard 2005; Stiglitz et al. 2009).

The SDH perspective also challenges the persistent view, described and previously challenged by Evans and Stoddart (1990), that health inequities are associated almost entirely with inequities in health care. It requires a cognitive leap from the position that health equals health care to the understanding that health is created across the course of life from conditions in pregnancy, in early childhood, through education and training, the transition to work, role in the labour market, income and living conditions, to conditions in later life. Health care and inequalities in health care are part of the picture, but are situated within the much broader framework of social determinants. This understanding opens the way 'to powerful new opportunities in prevention', as Dr Chan said in her speech at the launch of the CSDH report.

The CSDH called for a whole of government approach in which all policies are assessed in terms of their impact on health and the distribution of health. In addition it emphasized that the whole of society needs to be involved, from individuals and communities, to local government, non-governmental organizations, as well as the business sector and national governments working in their own country and influencing across nations through global fora and international institutions.

An ever present tension surrounding public health is the relationship between individual and social responsibility for health. We see the relationship between individual and social responsibility for health as inseparable. Individual choices are set within a political, social, economic and cultural context – the broad SDH. The goal of the SDH approach is to create the conditions in which people can take control over their lives. Rather than seeing people as passive consumers of services, including health care, the SDH approach means that people become empowered to make choices that enable them to live a healthy life.

Some commentators have observed that the CSDH recommendations for action across the whole of government and the whole society sound too ambitious (*Economist* 2008). Yet we have seen, and outlined in this chapter, how it is possible to apply the CSDH recommendations in practical ways that are appropriate to context. The movement for health equity involves those concerned asking 'what do the CSDH's recommendation mean for us and what we do?' as has happened in England, across Europe, the Asia Pacific and the Americas, and among the many institutions and organizations round the world who are taking SDH seriously.

The notion that the whole of government and all parts of society affect health presents a particular question that is important in moving forward on the SDH agenda. This question is: where do SDH sit? It has been put to us that if the responsibility for the SDH lies everywhere, it is nowhere. Political will at the highest level is required to lead the agenda on SDH, and ultimate accountability lies with

heads of governments. Ministers of health and their health departments have a role in championing the SDH within government and beyond, in supporting other ministries in developing policies that promote health equity, and in demonstrating through their actions how to deliver policies and programmes that promote health equity (Commission on Social Determinants of Health 2008). Recent experience in England and Sweden shows that it is at the local level of governance where people are often most interested and willing to engage in the SDH agenda. This is not surprising since local people and communities are very much interested in their own health. And interest at the local level is extremely positive in that delivery of policies, programmes and services to promote health equity requires engagement of local level actors and systems (Marmot Review 2010). Yet local level action alone is not enough for three reasons. First, local level action might result in regional inequalities when some local areas or communities take effective action and others do not. Second, local level action may be constrained by national policies (such as the budget cuts to local governments in England as previously discussed) and by global influences (for example, food and fuel price increases). Third, and most important, is that the local level of governance lacks the political authority to tackle the major determinants, for example, national policies that make the tax and benefit system more or less redistributive, or to exert influence at the global level on factors that affect health – the distributions of power, money and resources that structure society.

Conclusions

We end by going back to the beginning, before the CSDH was set up. At a meeting of the WHO's executive board in Iceland in 2004, Sir Michael Marmot outlined the proposal to set up the WHO Commission. He showed a slide headed: 'What does success look like?' beneath which were four bullet points:

- increased global awareness and action on SDH;
- best practices on SDH widely accepted and acted upon to identify opportunities; diagnose obstacles, implement action and measure results;
- WHO and global health actors working toward SDH-oriented policy change; and
- priority programmes and health systems development utilizing an SDH framework.

We noted earlier in this chapter ways in which progress has been made across all these areas. But progress has been patchy and more progress is necessary. In October 2011, WHO and the Brazilian government hosted a global conference to examine how the CSDH's recommendations are being implemented around the world and to reinvigorate action within countries (editor's note: see the Coda to this volume). Progress can be measured by more participatory and accountable

processes, fairer distribution of social and economic conditions that enable people to take control of their lives, and, ultimately, better health and improvement in health equity.

The Contributions of a Human Rights Approach to Health

Audrey R. Chapman

A series of international and regional human rights instruments have enumerated a right to health, usually framed as the right to the highest attainable standard of physical and mental health. Currently all countries have ratified or acceded to at least one of these post-1948 human rights instruments (technically treaties), thereby becoming legally bound to implement the rights and principles enumerated in them. In addition, many post-war national constitutions also have a reference to health rights. Importantly, an increasing number of non-state actors, including human rights organizations and several humanitarian organizations and charitable funders, are also guided by human rights norms as they seek to promote health access and outcomes (Gable 2007). This chapter provides an overview of current interpretations of a right to health, outlining both the contributions and limitations of a human rights approach. The first section summarizes the international legal framework and institutions for the right to health. The second identifies the human rights principles governing a human rights approach to health. The third discusses current interpretations of the requirements of the right to health, particularly as set forth in a general comment issued by the United Nations Committee on the International Covenant on Economic, Social and Cultural Rights, an expert human rights treaty monitoring body. The fourth section identifies some of the impediments to implementing this right, and the final section considers the benefits of applying a human rights approach to health.

The International Legal Framework Setting Forth the Right to Health

The concept of a right to health or health care evolved relatively recently. Like other social and economic rights, the concept of a right to health or health services reflects a broadened sense of governments' responsibility for the welfare of their

citizens and a commitment to a more inclusive understanding of human rights. The deprivations of the great depression, devastation of World War II and atrocities of the Holocaust served as stimuli. The United Nations Charter (1945), adopted in the aftermath of World War II, affirms 'faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small', but it does not enumerate specific rights. The first explicit mention of a right to health is in the Universal Declaration of Human Rights (1948), generally accepted as the foundation for modern conceptions of human rights and the international human rights system. A provision of the Universal Declaration of Human Rights states that 'everyone has a right to a standard of living adequate for the health and well-being of himself [*sic*] and of his family, including food, clothing, housing, and medical care and necessary social services …' (Universal Declaration of Human Rights 1948, Article 25). As a resolution adopted by the United Nations General Assembly, the Universal Declaration is not legally binding on United Nations member nations, but it served as the foundation for a series of international human rights conventions and covenants that legally obligate the states that ratify or accede to them, and thus become state parties, to implement their provisions. The International Covenant on Economic, Social and Cultural Rights (1966) and the International Covenant on Civil and Political Rights (1966) constitute the two most significant of these human rights instruments.

Article 12 of the International Covenant on Economic, Social and Cultural Rights (henceforth ICESCR or the Covenant), recognizes the right of everyone to the enjoyment of the highest attainable standard of physical and mental health and to that end mandates that state parties to the Covenant (the term for nation-states that have ratified a human rights treaty) take a series of steps to achieve its full realization: the reduction of infant mortality and for the healthy development of the child; the improvement of all aspects of environmental and industrial hygiene; the prevention, treatment and control of epidemic, endemic, occupational and other diseases; and the creation of conditions which would assure medical service and medical attention to all. As of April 2010 approximately three-quarters of the world's sovereign states, a total of 160 countries, including most Western democracies with the exception of the United States, had ratified ICESCR (United Nations 2010a).

There are related provisions on the right to health in other international human rights instruments. The International Covenant on Civil and Political Rights (1966) recognizes an inherent right to life (Article 6). Under the International Convention on the Elimination of all Forms of Racial Discrimination (1965), state parties undertake to prohibit and eliminate racial discrimination in all its forms and to guarantee the right of everyone without distinction as to race, colour or national or ethnic origin to economic, social and cultural rights including the right to public health and medical care (Article 5, e, iv). The Convention on the Elimination of All Forms of Discrimination against Women (1979) directs state parties to take all appropriate measures to eliminate discrimination against women in the field of health care. It also mandates that state parties ensure equality of access to health-care services, including those related to family planning, pregnancy, confinement and the post-natal period, granting free services where necessary (Article 12). The

Convention on the Rights of the Child (1986), which has near universal ratification, extends provisions of the right to health enumerated in the ICESCR to the child; the responsibilities of state parties under this instrument are to take appropriate measures to diminish infant and child mortality, ensure the provision of necessary medical care, combat disease and malnutrition, provide clean drinking water and combat the dangers and risks of environmental pollution (Article 24). Currently all countries have ratified one or more binding treaties that include mention of the right to health (Backman et al. 2008, 2047).

Similar provisions appear in several regional human rights instruments. For example, the European Social Charter (1961) recognizes the right to the highest possible standard of health attainable (Article 11) and a right to social and medical assistance (Article 3). Under Article 11 the contracting parties agree to undertake, either directly or in cooperation with public or private organizations, appropriate measures to remove the causes of ill health to the extent possible; to provide advisory and educational facilities for the promotion of health and the encouragement of individual responsibility in matters of health, and to prevent, again to the extent possible, epidemic, endemic, and other diseases. The African (Banjul) Charter on Human and Peoples' Rights (1982) similarly affirms that every individual shall have the right to enjoy the best attainable state of physical and mental health and mandates state parties to undertake necessary measures to protect health and ensure that their people receive medical attention when they are sick (Article 16). The Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights (1988) recognizes health as a public good and directs state parties to adopt a series of measures to ensure this right including the provision of primary health care, the extension of the benefits of health services to all individuals, universal immunization against the principal infectious diseases, prevention and treatment of endemic, occupational and other diseases, education of the population on the prevention and treatment of health problems, and satisfaction of the health needs of the highest risk groups and those whose poverty makes them the most vulnerable (Article 10).

The force of the health mandates enumerated in these instruments, however, is usually weakened by a provision that qualifies implementation by making it conditional on the availability of resources. Article 2.1 of the ICESCR, for example, acknowledges that the full realization of its enumerated rights can only be accomplished gradually as resources permit. This clause, sometimes characterized as the progressive realization principle, specifies that each state party 'take steps, individually and through international assistance and cooperation, especially economic and technical, to the maximum of available resources'. By so doing, the Covenant and other instruments with similar terminology concede that full and immediate realization of the right to health will generally not be achievable in a short period of time, particularly in poor countries. The progressive realization benchmark also implies that valid expectations and concomitant obligations of state parties are not uniform or universal, but instead they are relative to levels of development and available resources. The dilemma is how to assess what the phrases 'to take steps' and 'to the maximum of its available resources' entail in

specific circumstances. No human rights body has framed a methodology to do so. Evaluation of the implementation of the progressive realization norm also requires guidelines, as yet not formulated, to assess whether states are moving expeditiously and effectively toward the goal of the full realization of specific rights as well as specificity about the time period for doing so.

Under international law, primary responsibility for implementing human rights rests with national governments, responsible to their own citizens and residents. However, the obligation to offer 'international assistance and co-operation' noted in Article 2.1 extends duties beyond a state's own borders. By doing so it indicates that states, particularly those with greater financial and technical resources, have human rights responsibilities to other countries. The formulation of Article 2.1 also underscores the importance of international financial aid and technical assistance as a component of the total pool of resources available to poor states for implementing the rights in the Covenant.

To foster accountability, an intrinsic element of a human rights approach (as explained in the next section of the chapter), a variety of institutional mechanisms for monitoring, interpretation, and oversight exist on the international, regional, and sometimes at the national level as well. The international human rights system, headed by the United Nations Office of the High Commissioner for Human Rights, is the best developed. The Office of the High Commissioner for Human Rights oversees major programmes to protect human rights and implements human rights agreements. Its broad mandate includes provision of technical cooperation and advisory services. The UN Human Rights Council, a political body consisting of the elected representatives of 47 countries which was established in 2006 to replace the Human Rights Commission, is a subsidiary organ of the General Assembly devoted exclusively to the promotion and protection of human rights. Its mandate includes conducting periodic reviews of the human rights performance of all countries. In addition, the United Nations has established a series of human rights treaty monitoring bodies, which are expert committees overseeing the performance of states on specific human rights conventions, including a Committee on Economic, Social and Cultural Rights whose purview includes the right to health. In 2002, the UN appointed an independent expert, known as the Special Rapporteur, on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health (henceforth the Special Rapporteur on the right to health) who undertakes country missions to assess implementation, identifies barriers and prepares reports identifying ways to make the right more effective.

Human Rights Principles and Norms

The human rights paradigm offers and embodies a set of norms based on the principle of the inherent dignity and intrinsic worth of the human person. According to the Universal Declaration (1948) and other human rights documents,

'all human beings are born free and equal in dignity and rights' (Article 1). Because human rights are predicated on the intrinsic value and worth of all human beings, they are considered to be universal, vested in all persons regardless of their country of origin, gender, race, nationality, age, economic status or social position. Together the rights enumerated in the various documents represent a substantive account of the minimum requirements of a life of dignity and establish minimal standards of decent social and government practice (Nickel 1987, 1–3).

That all human beings are born free and equal in dignity and rights translates into the norms of equality before the law and equal protection of the law (Universal Declaration, 1948: Article 1) along with a strong emphasis on the principle of non-discrimination (Universal Declaration, 1948: Article 2). Like other human rights instruments the ICESCR mandates that all state parties guarantee that the rights enunciated in the Covenant be exercised without any distinctions as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status (ICESCR, 1966, Article 2.2). Additionally, it requires governments 'to ensure the equal right of men and women to the enjoyment of all economic, social and cultural rights set forth in the Covenant' (ICESCR 1966, Article 3).

One of the hallmarks of a human rights approach is the commitment to protecting the rights of vulnerable and disadvantaged individuals and groups. Much like the 'preferential option for the poor' in liberation theology, human rights confers priority on the fulfilment of the needs of the most disadvantaged and vulnerable. As universal entitlements, the implementation of a right is measured particularly by the degree to which it benefits those who hitherto have been the most disadvantaged and vulnerable and brings them up to mainstream standards (Chapman 1994, 152–3). Concern with the status of the vulnerable and disadvantaged comes from the realization that in virtually all societies there are individuals and groups of persons who systematically lack enjoyment of a wide range of human rights. Many of these groups experience discrimination, social exclusion, stigmatization, and/or deprivation of protections and entitlements on an ongoing basis. They may be subject to human rights violations by the state, by others in the society or from institutions, structural barriers, social dynamics and/or economic forces. A human rights approach seeks to protect and promote the rights of these individuals and communities.

Accountability is a central feature of a rights-based approach. The rights enumerated in the various human rights instruments vest individuals with political and legal entitlements and impose obligations on states, and sometimes other actors as well, to adopt 'appropriate' measures to provide them. Realizing accountability requires ongoing monitoring and oversight by both government officials and those who are affected by their policies and action. Alicia Ely Yamin identifies three central aspects of accountability with which a human rights approach to health should be concerned: (1) what the state is doing; (2) how much effort the state is expending; and (3) how the state is going about the process. According to Yamin, meaningful monitoring demands transparency by political actors, access to information and active popular participation. She

underscores that true accountability has need of processes that empower and mobilize ordinary people to become engaged in political and social action and thereby enable them to be transformed from passive beneficiaries to active rights-holders (Yamin 2008).

Judicial remedies to enforce human rights claims can comprise another aspect of accountability. Many governments have entrenched human rights in legislation in a form that is justiciable (enforceable through the courts) in response to claims by individual rights-holders (Eide 2007; Gloppen 2008). An expanding literature addresses economic and social rights litigation and its varying degree of effectiveness (Gauri and Brinks 2008; Langford 2008; Yamin 2008). The effects of litigation depend on a complex of factors involving not only the legislative background but also the receptivity of courts, the political history of economic and social rights claims, and the mobilization of civil society. Even when litigation is successful in the sense that the issue is resolved at least partly in favour of rights claimants, direct impact may be limited (Schrecker, Chapman, Labonté and De Vogli 2010, 1522–3).

The human rights and democratic principle of self-determination enumerated in various human rights instruments emphasizes the right of all members of society, and particularly previously excluded groups, to participate in a meaningful way in deciding on their governance and common future. Participation translates into a right to meaningful involvement in societal decision-making on setting priorities for policy and helping to shape major decisions. Former United Nations Commissioner for Human Rights Mary Robinson has characterized participation and active involvement in the determination of one's own destiny as 'the essence of human dignity (cited in Yamin 2009, 6). As Alicia Yamin notes, participation is not merely a matter of providing individuals and groups with an opportunity to choose policies but also requires providing the chance to shape the structures and practices in which these choices occur (2009,10).

Interpretation of the Right to Health

The understanding of what the right to health encompasses has expanded over time, led by the UN Committee on Economic, Social and Cultural Rights (henceforth CESCR or the Committee), a treaty monitoring body that receives and comments on periodic reports from states parties and interprets the provisions of ICESCR. In 2000, the Committee adopted a general comment to update and interpret Article 12 of the Covenant on the right to the highest attainable standard of health (Committee on Economic, Social and Cultural Rights, 2000). This general comment is generally considered the seminal document interpreting the right. Two other treaty monitoring bodies, the Committee to Eliminate All Forms of Discrimination against Women (CEDAW) (1999) and the Committee on the Rights of the Child (CRC) (2003), have also written interpretative documents focusing on issues relevant to women and girls and adolescents.

According to the text of General Comment 14, the right to health is an inclusive right that goes well beyond the original provisions outlined in the ICESCR, which it characterizes as merely illustrative. As interpreted in the General Comment, the right to health is not understood as a right to be healthy (¶ 8) but as a right to a variety of facilities, goods, services, and conditions necessary for the realization of the highest attainable standard of health (¶ 9). These extend not only to the availability of timely and appropriate health care, but also incorporate the underlying determinants of health, such as access to safe and potable water and adequate sanitation, an adequate supply of safe food, healthy occupational and environmental conditions, and access to health-related education and information, including on sexual and reproductive health (¶ 11). The obligations of the state identified in the General Comment include the provision of maternal, child, and reproductive health services (¶ 14); the improvement of all aspects of environmental and industrial hygiene through the prevention and reduction of the population's exposure to harmful substances and the assurance of hygienic working conditions (¶ 15); provision of primary health care; the extension of the benefits of health services to all individuals; universal immunization against the principal infectious diseases; prevention, treatment, and control of endemic, occupational, and other diseases (¶ 15 and 16); the provision of equal and timely access to basic preventive, curative, rehabilitative health services and health education on the prevention and treatment of health problems (¶ 17). In addition, the general comment emphasizes the importance of the participation of the population in all health-related decision-making at the community, national and international levels. It updates the language and conceptual underpinnings of the ICESCR emphasizing the need for a gender perspective and a comprehensive national strategy for eliminating discrimination against women (¶s 20 and 21). It further addresses the requirements of non-discrimination and equal treatment in access to health care and the underlying determinants of health (¶ 18 and 19) and the special obligations of the state to provide for the satisfaction of the health needs of the most vulnerable whose poverty, disabilities, or background make them the most vulnerable (¶ 25–7, 43a).

Like other human rights, the right to health imposes three types or levels of obligations on state parties: to respect, protect, and fulfil components of the right (Maastricht Conference 1998, 694). According to General Comment 14, the obligation to respect requires state parties to refrain from interfering directly or indirectly with a guaranteed right. To put it another way, states are under obligation to refrain from interfering with the enjoyment of the right to health by denying or limiting access to services or facilities, blocking equal treatment for all people, or enforcing discriminatory practices. For example, a government is required to respect the right to health by abstaining from enforcing discriminatory practices that would deny or limit equal access for all persons to curative and palliative health services, including prisoners or detainees, minorities, asylum seekers, and illegal immigrants. The duty to protect is the state's obligation not to allow other entities to deprive its people of a guaranteed right. For example, a government has a responsibility to prevent other actors within its jurisdictions,

including corporations, from infringing the right to health, as for example by failing to enforce laws to prevent the pollution of water, air and soil by extractive and manufacturing industries. The duty to fulfil requires the state to work actively to implement the requirements of a right and to that end to establish laws, institutions and policies, and make the necessary investments. For example, fulfilment of the right to health requires the establishment of an appropriate infrastructure providing widespread access to health services (Committee on Economic, Social and Cultural Rights 2000, ¶ 33).

General Comment 14 sets forth four criteria to evaluate whether obligations related to the right to health are being realized: availability, accessibility, acceptability and quality (¶ 12). Availability refers to the extent to which the facilities, goods, and services required for the fulfilment of a specific right are available in sufficient quantity for the population within the state. Accessibility has four dimensions: (1) non-discrimination, whether the facilities, goods and services are accessible to all without discrimination on any of the prohibited grounds; (2) physical accessibility, the extent to which the facilities, goods and services are within safe physical reach for all sections of the population, especially vulnerable and marginalized groups; (3) economic accessibility, whether the goods, services and facilities related to the rights are affordable for all, including socially disadvantaged groups; and (4) information accessibility, whether the population has the right to seek, receive and impart information relevant to the right. Acceptability is a measure of whether the facilities, good and services are culturally appropriate and respectful of ethical standards. Quality entails whether the facilities, goods and services are scientifically appropriate and of good quality.

To compensate for the limitations of the progressive realization standard, the Committee has stipulated that state parties have an immediate obligation to fulfil some obligations, including to ensure the satisfaction of a 'minimum core content' of each economic, social and cultural right (Committee on Economic, Social and Cultural Rights 1990, ¶ 10). General Comment 14 has an extensive list of core obligations related to the right to health and furthermore insists that 'a state party cannot, under any circumstances whatsoever, justify its non-compliance with the core obligations … which are non-derogable' (Committee on Economic, Social and Cultural Rights 2000, ¶ 47). Taken together the list of core obligations imposes quite a comprehensive mandate of obligations to fulfil and would require a level of investment of resources that may be beyond the capacity of poor and perhaps even some middle-income countries to provide. Implementing these core obligations even – perhaps especially – in a low- or middle-income country would also necessitate having an activist, committed state party, with a carefully honed set of public policies related to the right to health and a willingness to invest substantial levels of scarce resources (Chapman 2002, 205, 211–15).

Limitations

Social determinants of health

There is now far greater awareness than at the time the Covenant was drafted that health status reflects a wide range of non-medical factors. In many regions of the world the most valuable steps toward improvement of health are not the provision of medical services but improvements in the social determinants of health. Briefly, the social determinants of health are the conditions in which people grow, live, work and age that affect their opportunities to lead healthy lives. Analysts have become more aware of the vital role of non-health inputs like the availability of safe water, sanitation systems and sufficient nutritious food to health outcomes. At the same time work in social epidemiology, social medicine and medical sociology has shown that the social, cultural, economic, political and living conditions of the population are equally important, sometimes even more so, in determining the health status of populations (Yamin 2008). The 2008 report of the Commission on Social Determinants of Health makes an important contribution to this topic (see Chapter 13). It synthesizes national and global data on the social determinants of health. It also shows their impact on health inequalities and avoidable health inequities within and between countries. It does not, however, place this discussion in a human rights framework (Chapman 2010; Chapman 2011).

Human rights law has recognized the importance of what it terms 'the underlying determinants of health'. Article 24 of the Convention on the Rights of the Child, the most recently drafted of the major instruments, states that the right to health includes access to nutritious food, clean drinking water and safe environmental conditions (1989). As previously noted, the Committee's General Comment 14 interprets the right to health inclusively as extending not only to timely and appropriate health care but also to the underlying determinants of health (Committee on Economic, Social and Cultural Rights 2000, ¶ 11). In addition, the Committee has addressed the important link between health and water in a separate general comment (Committee on Economic, Social and Cultural Rights 2002).

Nevertheless, the narrow and sometimes excessively legalistic understanding of the right to health held by many in the human rights community does not accord sufficient importance to the role of the social determinants of health. Paul Hunt, the first Special Rapporteur on the right to health, lamented that there is a 'definite tendency in some governments, international organizations and elsewhere to devote a disproportionate amount of attention and resources to medical care at the expense of the underlying determinants of health' (Hunt 2007, ¶ 48). Moreover, even when a rights-based approach addresses the underlying determinants of health it is more likely to be in terms of the obligations of governments to provide basic services rather than as factors that determine the health status of individuals and communities. For example, General Comment 14 enumerates the obligation of states to disseminate appropriate information related to life styles and nutrition

(Committee on Economic, Social and Cultural Rights 2000, ¶ 37) and the core obligations to ensure access to minimum essential food (Committee on Economic, Social and Cultural Rights 2000, ¶ 43b) and to basic housing, sanitation and an adequate supply of safe, and potable water (Committee on Economic, Social and Cultural Rights 2000, ¶ 43c).

Weak commitments of states

Importantly, many states have weak commitments toward implementing their human rights obligations, and one influential government, the United States, considers economic and social rights, including the right to health, as aspirational goals and not full human rights. Although the Obama administration's recent periodic report to the UN Human Rights Council was free of the disparaging language about the right to health characteristic of many other administrations, its section on health does not acknowledge any rights-based obligation, such as to provide universal coverage (Report of the United States of America 2010).

The fact that the vast majority of states have ratified or acceded to at least one of the major human rights instruments addressing the right to health does not necessarily mean they fulfil the requirements specified therein (Backman et al. 2008). There is a vast disparity between rhetorical affirmations of acceptance of various rights and their implementation. Although institutions in the UN human rights system, the Committee and members of the human rights community speak about human rights instruments as imposing binding legal obligations, many states consider the requirements outlined in the international human rights instruments that they have ratified, particularly in the sphere of economic, social and cultural rights, to be more in the nature of aspirational commitments. While human rights bodies have developed an expansive interpretation of specific rights over time, including and specifically the right to health, many states have minimalist conceptions of what these rights entail and may not consider the understanding given in the general comments to be authoritative. States' reluctance to acknowledge and fulfil their human rights obligations is reflected in the slow implementation of the right to health including the provisions designated as core obligations. Many states claim their lack of progress is due to resource constraints, and in some instances this is a factor, but in many instances the real issue is the lack of political will (Chapman 2009).

Weakness of international human rights system

The international order established after World War II is based on the principle of state sovereignty. Because human rights norms could potentially impose limitations on their sovereignty, governments have consistently curtailed the power of, and seriously under-resourced, international human rights mechanisms – seemingly to limit their effectiveness in challenging state policy. Thus, although

state parties are legally bound by both the individual and collective dimensions of health rights enumerated in the various instruments, there are no effective enforcement mechanisms for assuring their implementation of these obligations or sanctions for neglecting them. Human rights bodies can 'name and shame', but do little else. Even their ability to conduct human rights fact-finding missions is usually contingent on the agreement of the government in question.

The relative powerlessness of the human rights institutions is painfully apparent when there are conflicts between the demands imposed by the World Trade Organization, the International Monetary Fund and the World Bank and the requirements necessary to realize human rights obligations. In theory, given the special status of human rights in international law, an international treaty on trade and investment which conflicts with human rights obligations of states should not be applied or should be re-interpreted to be made consonant with human rights obligations (De Schutter 2010). The reality of the situation, however, is that international human rights trade and investment rules are often enforced with sanctions, and when confronting the possibility of trade sanctions from the World Trade Organization or the elimination of eligibility for loans from the International Monetary Fund or World Bank, virtually all governments will opt to neglect their human rights obligations.

Weakness of health systems

A strong and effective health system is fundamental to a healthy and equitable society as well as to the realization of the right to health (Hunt 2008). However, a World Health Organization (WHO) publication laments that in too many countries health systems 'are on the point of collapse or are accessible only to particular groups of the population' (World Health Organization 2007, 1). According to the assessment in this publication, the health systems in many countries are failing, inequitable, regressive and unsafe (World Health Organization 2007). Decades of neglect and the failure to invest in infrastructure in the developing world, some of it attributable to the heavy debt burdens of poor countries and to the conditions attached to World Bank and International Monetary Fund loans, have weakened primary health facilities, local hospitals, clinics, laboratories and medical schools and rendered them unable to provide essential services. The neo-liberal ideology dominant in economic circles in recent years has further contributed to the weakening of health systems by viewing health institutions and services as commodities, as inputs to productivity and economic growth and sources of potential revenue, rather than as public and social goods. Neo-liberal ideology has put forward a conception of a minimalist government with most social services provided by the private sector. Consistent with this perspective, multi-lateral institutions like the World Bank have promoted a market-oriented concept of health sector reform that favours reductions in public sector spending, private provision of health services, introduction of user fees and other cost-recovery measures that decrease access to health care for the poor (Chapman 2009).

The privatization and commercialization of health services and of many of the underlying determinants of health has been problematic in several ways. The classical human rights model vests obligations for implementation in states. The privatization of health services imposes limitations on governments' ability to set health policy and oversee its realization. Privatization also tends to increase the cost of services, making them less available to the poor. Even in some wealthier countries commercialization of the health sector is transforming health services into an expensive commodity increasingly out of the reach of the poorest members of the community (World Health Organization 2008).

Lack of resources

In the past the human rights community associated the inability of many countries to achieve economic and social rights primarily with a scarcity of resources, for example those needed to fulfil the core obligations specified in General Comment 14 (Committee on Economic, Social and Cultural Rights 2000). As noted, a core obligation by its designation is not subject to the availability of resources and is not qualified by the principle of progressive realization. But is it realistic to assume that all countries, including the poorest ones, even if so committed, are able to achieve these objectives within a relatively short period of time? Some of the core obligations, for example to adopt and implement a national public health strategy and plan of action on the basis of epidemiological data, addressing the health concerns of the whole population and giving particular attention to all vulnerable or marginalized groups (Committee on Economic, Social and Cultural Rights 2000, ¶ 43f), are primarily matters of policy. Other dimensions of core obligations would be more complex and expensive to implement, especially given the mandate for them to be to the entire population, for example, to ensure equitable distribution of all health facilities, goods and services (43e); to provide essential drugs (34d); to ensure access to basic shelter, housing and sanitation and an adequate supply of safe and potable water (43c); to provide immunization against the major infectious diseases occurring in the community (44b); and to take measure to prevent, treat and control epidemic and endemic diseases (44c).

In 2001, the WHO Commission on Macroeconomics and Health estimated that a minimum of USD34–40 per person would be required to finance a package of cost-effective public health and clinical interventions appropriate for low-income countries and to achieve the health-related Millennium Development Goals. This package includes some, but certainly not all, of the health services identified as core obligations, and none of the other health inputs related to the social determinants of health. At that time health expenditure in 29 of the poorest countries was between USD1 and USD9 per capita, and in another eight it was USD23 or less. Reaching the minimum investment goal would therefore require a major reallocation of resources, estimated to be equal to about 15 per cent of government expenditure (WHO 2003). However, for many of the poorest countries with the worst health outcomes the severe constraints on their resources make this very unlikely. Nor

does it seem likely that other sources of funding will come forward to make up the deficit.

Moreover, the problem is far more complex than just the absence of resources. For example, in recent years there has been an extraordinary and unprecedented rise in public foreign aid and private philanthropic giving, resulting in billions of dollars being directed to addressing the health needs of developing countries, but this significant increase in resources has not necessarily been translated into improved health outcomes. Much of the money has been designated for disease-specific programmes, often with short-term numerical targets, rather than to strengthening health infrastructure and public health programmes. Some critics claim that this pattern of investment has drawn attention away from other health problems of the poor, weakened already fragile public health systems, attracted health professionals away from vital infrastructure positions; contributed to the brain drain and failed to reach the populations in greatest need (Garrett 2007). Others have a more positive view of the benefits of this influx of money (Bate and Boateng 2007; de Waal 2007; Sachs 2007).

Globalization

Globalization, a process characterized by the growing interdependence of the world's people, involves the integration of economies, culture, technologies and governance. To date, however, the opportunities resulting from globalization and access to global markets have been largely asymmetrical, disproportionately benefiting the more affluent countries that already have productive assets than the low- and some middle-income countries that lack them. Economic inequalities both between and within countries have risen significantly since the early 1990s. Trends have shown increasing concentrations of income, resources and wealth among corporations, countries and people. Globalization has rendered many poor people in low-income countries even poorer. Linked with these economic changes, the past 25 years of intensified market integration have also featured a slow-down or reversal in many health improvements and growing health inequalities. The health gap between the worst and best-off groups is growing. Wealthy populations are increasingly healthier and living longer while poorer populations are getting sick and dying younger (Gostin and Hodge 2007, 519–25).

In a global system many states, particularly poor ones, have significant constraints on both their ability and their freedom to implement human rights obligations or, to describe the situation in another way, global market integration is shrinking the ability to make decisions about health without taking into consideration such factors as economic growth, maintaining payments to external creditors and complying with trade agreement conditions even when these impose health-negative effects. The growing strength and roles of international institutions, like the World Bank, the International Monetary Fund and the World Trade Organization have also imposed limits on the ability of states to meet their human rights obligations. The conditions (conditionalities) required by international financial institutions for

low-income countries to be eligible for loans and debt restructuring reduce the resources available for essential services and thus for implementing core human rights obligations. Under 'structural adjustment', the economic model current from the early 1980s until the late 1990s, the International Monetary Fund and World Bank imposed austerity policies on borrowers, ostensibly to end their fiscal imbalances. More recently, the World Bank has moved from structural adjustment to a nominal focus on poverty reduction, but there is often little practical change regarding the constraints imposed on poor countries. Rigid ceilings on public health and other social services expenditures imposed by the Bank's Medium-Term Expenditure Frameworks continue to restrict adequate funding for the realization of economic social and cultural rights (Ooms and Hammonds 2008).

Almost all of the Poverty Reduction Strategy Papers (PRSPs), national planning frameworks, that are now a precondition for Bank concessional lending include or refer to an existing Medium-Term Expenditure Framework. Once included in an agreed PRSP, countries cannot adapt the limits on funding even if a new essential need arises (Hammonds and Ooms 2004, 37–9). An analysis of the public expenditure budgeting in the health-care sectors of Mozambique, Rwanda and Uganda, as provided for in the PRSP process, concluded that then-current PRSPs made it impossible to fund public health at a level that satisfies the requirements of core obligations (Hammonds and Ooms 2004, 23–60).

Benefits of a Human Rights Approach to Health

The right to health as a normative framework

In a world in which there are few countervailing normative and policy approaches to the dominant neo-liberal ideology underpinning globalization, the human rights paradigm provides a compelling alternative. In contrast to neo-liberalism's focus on the market, sometimes characterized as 'market fundamentalism' (Somers 2008), human rights are based on the recognition of the inherent dignity and worth of the human person and the commitment to improving human well-being. More specifically, as noted earlier the litmus test for a human rights approach is the extent to which the rights of the most vulnerable and disadvantaged individuals within the community are assured by any set of policies or institutional arrangements. Some would go farther in characterizing the challenge that human rights poses to globalization. Paul O'Connell, for instance, argues that it is not possible to be committed to the protection of human rights and at the same time acquiescent in the dominant model of globalization. According to O'Connell, the conditions for the violation of human rights are structurally embedded in the neo-liberal globalization programme (O'Connell 2007). This strongly egalitarian characteristic of the human rights perspective is one of the most important reasons to consider it central to efforts to reduce health disparities worldwide.

Human rights as a source of political mobilization

A human rights approach stresses the need for empowerment, participation and accountability so that people can take control over their lives. Consistent with this vision, human rights obligations have served as a source of inspiration, a focal point and an organizing strategy for civil society activists around health and other economic and social rights. The human rights paradigm offers a powerful language of resistance, a way to define people's aspirations, and a vehicle for mobilization of people to achieve accountability on the part of the state (Quatert 2009, chapter 1). A broad range of issues with health implications, as for example water privatization, oil contamination, exploitation of indigenous lands and the impact of trade agreements on access to medicine, are now being contested as human rights issues (Yamin 2008). Arguably, as Christopher Jochnick observes: 'The real potential of human rights lies in its ability to change the way people perceive themselves vis-à-vis the government and other actors. A rights framework provides a mechanism for re-analyzing and renaming "problems" as "violations", and, as such, something that need not and should not be tolerated' (Jochnick 1999, 59).

Paul Hunt, the former Special Rapporteur on the right to health notes, 'As never before, civil society – especially in low-and-middle-income countries – is engaging with health and human rights' (Hunt 2007, 2). Something approximating an international health and human rights movement is developing. The People's Health Movement, a global organization with national chapters seeking to promote social transformation and the right to health, recently launched a global Right to Health and Healthcare Campaign (People's Health Movement 2008). Médecins Sans Frontières, Partners in Health, Doctors for Global Health, and other humanitarian organizations of health professionals are increasingly using human rights as an advocacy tool. Many human rights organizations are going beyond the traditional human rights techniques of 'naming and shaming' to adopting more policy-relevant approaches. In countries with relevant legal or constitutional health entitlements, human rights norms have provided grounding for legal efforts, sometimes supported by public advocacy and mobilization, to oppose cutbacks or the failure to provide health entitlements (Hunt 2007, ¶ 59–89).

Campaigns to improve access to essential medicines constitute one example of these initiatives. Pressure from non-governmental organizations concerned with the access of poor countries to essential medicines contributed to the formulation of the Doha Declaration on the World Trade Organization's TRIPS Agreement and Public Health and the subsequent decision (August 2003) allowing countries producing generic copies of patented drugs under compulsory licence to export drugs to countries with little or no manufacturing capacity (Hunt 2004, ¶ 43). In 2001, a global campaign by Oxfam, Médecins Sans Frontières and other organizations, which included a petition signed by some 250,000 people, convinced the pharmaceutical manufacturers of South Africa to withdraw its case on behalf of 39 leading drug companies against the South African government's 1997 Medicines Act thereby allowing the country to import cheap alternatives to branded medicines (Chapman 2009, 106–107).

Conclusion

The right to health for all has offered a set of norms and goals that has inspired governments, communities and individuals. As set down in human rights law, progressive realization of the right to the highest attainable standard of health is a legal obligation for most, if not all, states. This chapter has emphasized the central role of political will and appropriate public policies for achieving the right to health. It has also lamented the weak political commitment of many states. Safeguarding the gains already achieved and promoting greater equity and respect for the right to health will require a renewal of public commitment to the goal and the investment of appropriate human and financial resources. This is unlikely to occur without increased political mobilization on the part of citizens. Like all human rights, the realization of the right to health is dependent on a citizenry aware of its rights and willing to fight for them.

Coda: The World after Lehman Brothers, New York and Rio

Ted Schrecker

Anthropologists Craig Janes and Kitty Corbett (2009, 168) argue that 'global health has come to occupy a new and different kind of political space that demands the study of population health in the context of power relations in a world system'. In various ways, the contributions to this volume all emphasize this point. So, too, does the context of uncertainty in which the manuscript of this volume was finalized. As noted in the introduction, the NCD Summit was on many accounts compromised by the influence of commercial interests; the importance of this point was emphasized by post-Summit suggestions that at least one G8 government (Canada's) sought to weaken elements of the concluding political declaration that emphasized corporate responsibilities and the relevance of trade policy (Webster 2011). The World Conference on Social Determinants of Health generated a declaration similarly, if perhaps predictably, lacking in specifics. Perhaps more disturbing was the attitude of many participating governments, as described after the conference by Sir Michael Marmot, who chaired the Commission that gave rise to it: 'The word on the street was that there were objections to the Commission's strong emphasis on inequities in power, money and resources. Trying to convince poor people to eat vegetables is one thing, acceptable and safe; attacking the inequity in power, money and resources is altogether less safe' (Marmot 2011). And the debates about reform at WHO referred to in Chapter 11, driven by budget shortfalls that led to layoffs of hundreds of staff in Geneva, were still under way, with concerns persisting that the unavoidable effect would be to give the suppliers of discretionary funds that make up three-quarters of the organization's budget even more influence over its priorities (Collier 2012).

Even more convincing evidence of the importance of power relations in a world system was provided by the financial crisis that spread across the world in 2008 – externalizing on a massive scale the costs of predatory domestic lending practices

and deregulation in the United States, most of which were borne and will continue to be borne by those who had no control over the initiating events. One immediate consequence of the recession that followed was a decline in development assistance for health, for example leading the Global Fund to suspend financing for new projects until 2014 (Moszynski 2011). Another was an increase in suicides and a decline in the use of health services associated with the austerity programmes that Greece had adopted as the price of loans enabling it to avoid default on its external debt (Kentikelenis et al. 2011), a phenomenon that in many respects represented a reprise of the era of structural adjustment in much of the developing world.

It seemed likely that similar results would be observed in other countries (such as Spain and Ireland) hard hit by the combined collapse of financial institutions, property markets and employment. Indeed, the crisis 'brought the war home' to the United States, producing a largely invisible army of more than 14 million households dispossessed by foreclosure, a substantial proportion of them consisting of renters (Sassen 2011). By mid-2011 a record 45 million people (many of them probably the same people) were receiving the federally issued food vouchers known as food stamps (Food Research and Action Center 2011). What will be the effects on population health of these economic dislocations, over the life course and intergenerationally? If we start from the definition of global health issues proposed in Chapter 11 – 'those health issues that transcend national boundaries and the reach of governments and call for actions on the global forces and global flows that determine the health of people' – it is clear that many aspects of health have become globalized in rich countries as well as in poor ones, in ways that go far beyond familiar concerns about contagious disease in an era of low-cost air travel.

Over the longer term, the combined effects of the financial crisis and subsequent austerity programs are likely to accelerate what Birdsall (2006) has called the 'disequalizing' effects of globalization, and indeed imperil the economic security of large segments of the population. In the high-income countries, will these developments also render politically irresistible a self-interested, *sauve qui peut* approach to foreign policy and its (intentional and unintentional) effects on people outside those countries? Will the appeals to security described in Chapter 8, and the ethical compromises they entail, be regarded as necessary to keep health from dropping off the foreign policy agenda altogether? On the topic of the disequalizing consequences of globalization, Andrew Sumner pointed out in 2010 that a majority of the world's poorest people, defined with reference to the World Bank's extreme poverty threshold of USD1.25/day, now live in middle-income countries, again as defined by the World Bank (Sumner 2010). This shift is in large measure a consequence of India's exit from the low-income category, but while India is home to a growing middle class and an estimated 153,000 'high net worth individuals' with investable financial assets of more than USD1 million (Capgemini and Merrill Lynch Wealth Management 2011) it also has more than 450 million people living in extreme poverty. The changing geography of poverty has important implications not only for the design of development policy in a post-MDG world, but also for the domestic politics of reducing health disparities through social policy and health system design. The World Bank's sanguine view *circa* 2007 was that: 'as

average incomes rise, the number of poor will shrink and the tax base will grow, making effective assistance easier to provide and social safety nets a viable remedy for increasing inequality' (World Bank 2007, 69) – a proposition that so far fits the experience of some countries, but is so radically at odds with that of others that it borders on theology.

Trade and investment flows have become global; so too, at least to a degree, have ideas and institutions. It may be a bit of an overstatement to describe human rights as 'the closest thing we have to a shared values system for the world', as former UN High Commissioner Mary Robinson (2007, 242) has done, but they are certainly a globalized value system in the sense that the key international instruments have been widely, although not universally ratified. In Chapter 14, Audrey Chapman argues the value of a human rights approach to health as both a normative framework and a source of political mobilization. In mid-2011, the Committee on the Elimination of Discrimination against Women, the UN system body charged with monitoring compliance with the Convention on the Elimination of All Forms of Discrimination against Women, clearly identified maternal mortality as a human rights issue (Bueno de Mesquita and Kismödi 2012). This overdue recognition may lend momentum to efforts to mobilize resources in support of what many see as the neglected MDG, and certainly establishes a link between economic and social rights and the foundational human rights principle of non-discrimination.

Sir Michael Marmot and colleagues have called for 'a social movement, based on evidence, to reduce inequalities in health' (Marmot, Allen and Goldblatt 2010) and even claim to have identified the genesis of such a movement in responses to the review of policies to reduce health inequities in England that Marmot led. The need for such a social movement is (in my view) beyond doubt, but this view of the conditions essential for its formation may be too bloodless. I would argue that effective contemporary social movements may invoke evidence, but they are seldom 'based on' evidence and almost never driven by it. Rather, they are driven by passion, despair, hope and – perhaps most fundamentally – the sense of shared interests and destinies that is called solidarity in the context of the trade union movement. Other social movements have depended on the existence of that sense among people who were not otherwise similarly situated within their own societies or the world, the trans-national campaign to increase access to antiretroviral therapy for AIDS being a conspicuous case in point. In our volatile and uncertain century, what shared interests or vulnerabilities are likely to sustain a social movement to reduce health disparities on a global scale? Neils Bohr's warning about the difficulty of prediction is useful to keep in mind, but if we want to make predictions about the future of global health and its politics, this question may be as good a place to start as any.

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