

Introduction

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Government-organised vaccination campaigns are political projects that presume to shape the immunity of whole populations.¹ Like other pervasive expressions of state power – taxing, policing, conscripting – mass vaccination arouses anxiety in some people but sentiments of civic duty and shared solidarity in others. As a rule, controversy clings to immunisation programmes,² and different social formations – classes, urban elites, ethnic and confessional majorities and minorities, specialised workforces, refugees, provincial antagonists of capital cities – have at different times and places disputed, evaded or actively opposed state-led vaccination. Nonetheless, in most communities vaccines have come to be accepted as the most effective means for halting the spread of communicable diseases. People now tend to demand public health immunisation, and the development of new vaccines, for example against HIV, malaria and Ebola, are eagerly awaited. But compliance is always an issue. A key premise of this collection is that a state's ability to produce, or at least distribute, large quantities of vaccine, as well as its ability to manage the necessarily awkward intrusion into healthy bodies, have at different times and places strengthened or weakened social cohesion.

This book's eleven chapters and afterword document key campaigns against major infections since 1800 (but mostly after 1950) in Europe, South and East Asia, West Africa and the Americas. Throughout, the authors explore relationships among vaccination, vaccine-making and the discourses and debates on citizenship and nationhood that

accompanied mass campaigns. Two bold, not wholly unfamiliar generalisations emerge:

- A government's capacity to manufacture its own vaccines has frequently played a role in building and sustaining national sovereignty.
- The success or failure of a vaccination campaign has notable effects on the inner formation of participants' sense of community and citizenship.

As will be seen, mass immunisation should not be considered a neutral practice; it requires assessment in its relation to state power, national identity and the individual's sense of obligation to self and others.

What's new in this book?

While historians have explored the evolution of public health in different parts of the world, and of vaccination as a key component, few have located vaccination in relation to twentieth- and twenty-first-century political milestones like colonial nationalism, decolonisation, the Cold War, the rise of economic neo-liberalism and recent geo-political shifts. This collection gives a comparative overview of immunisation at different times in widely different parts of the world and under different types of political regime.

Five of the chapters are set in the last fifty years.³ Four others pay particular attention to the development and manufacture of vaccines, because the capacity to produce the vaccines that publicly run programmes required was long taken as a sign of sovereign responsibility and authority – an authority that is being relinquished in many countries, going back to the the 1980s.⁴

The remaining chapters hark back to earlier episodes of vaccination controversy in the nineteenth and twentieth centuries. An afterword relates disturbing shortcuts taken by an elite fraternity of global health leaders that has launched the major disease eradication and immunisation programmes since the 1980s.⁵

Core themes in the chapters include immunisation as an element of state formation; citizens' articulation of seeing (or not seeing) their needs incorporated into public health practice; allegations that development aid is inappropriately steering third-world health policies; and an ideological shift that regards vaccines more as profitable

commodities than as essential tools of public health. Each chapter has been written by a specialist trained in appropriate languages and literatures. Taken together they encompass vaccination, not only as a public health measure, but also as a source of disruptions that evoke abstract outcomes, such as a sense of shared solidarity (or of outrage over violations of bodily integrity), the glow of humanitarian achievement (or disgust with first-world hubris), or neo-liberal satisfaction that bargaining when sourcing vaccines results in thrift and efficiency (or in patriotic regret that a nation's manufacturing capacity is swiftly draining away). Above all they suggest that immunisation is a novel historical lens through which to view changes in 'society' and 'nation' over time.

Vaccine politics in historiographical perspective

The collection builds on a solid body of literature that links the nineteenth-century advent of public health immunisation to the consolidation and emergence of nation-states. For example, as Peter Baldwin has argued, smallpox vaccination in the early 1800s served to demonstrate the willingness of small, newly formed German states to protect their citizens.⁶ On the other hand, assertive localism in Britain, motivated by a reluctance to experience vaccination at the hands of outsiders and officials, led to serious provincial opposition, as Deborah Brunton argues in her survey of public immunisation in England, Wales, Scotland and Ireland.⁷ Christoph Gradmann and Volker Hess have shown that statistics, epidemiology and bacteriology were allied sciences closely linked in Europe to the proliferation of vaccines as vital tools for the new profession of public health.⁸ Bacteriological research after 1890 was directed by public policy to develop new vaccines, sera and antitoxins, and both state laboratories and private pharmaceutical companies began to produce them for governments.⁹ There have been too few studies, however, of the 'networks of innovation' required for vaccine research and development, a notable exception being Louis Galambos's history of the firm Merck, Sharpe and Dohme.¹⁰

In the USA robust private manufacture of vaccines after 1900 was accompanied by 'breathless coverage' of scientific benefits in the press; but there were occasional disasters, and by 1902 the Public Health

Service was empowered to inspect pharmaceutical products and regulate their sales.¹¹

Bacteriological thinking and associated technologies and practices were put to use far beyond Europe and North America, largely to protect expanding imperial interests. Colonial medical and public health policies in the later nineteenth century have attracted considerable attention.¹² Most of these accounts terminate with a colony's independence. A few other authors address inter-colonial health collaborations and international health organisations, such as the Health Office of the League of Nations and the International Red Cross.¹³ Myron Echenberg has written a detailed study of responses to the plague pandemic that went around the world in 1894–1901.¹⁴ Bacteriological research into cholera, malaria and plague was launched in this period in colonial North Africa and tropical Asia by British, French and Dutch microbiologists. Several vaccine institutes were established in late Victorian India, well before many European countries, in response to plague, cholera and other diseases. As Ilana Löwy and Pratik Chakrabarti have shown, more than half a dozen Indian vaccine institutes conducted research and also produced vaccines and sera against cholera and plague but also against rabies, tetanus, diphtheria, smallpox, typhoid and snakebites.¹⁵ Despite this long record of institutional research, Anil Kumar has found that colonial research policies before Independence in 1947 failed to lay the foundation for a sustainable path for vaccine development and production in an independent India.¹⁶

In the early decades of the twentieth century private foundations – notably the Rockefeller Foundation and the Pasteur Institute – contributed heavily to the establishment of bacteriological research in much of Asia, Latin America and in parts of Africa.¹⁷ Anne-Marie Moulin has examined the Pasteur Institute's global 'adventure of vaccination' in the nineteenth and twentieth centuries in several books and articles.¹⁸ Latin American scholars have examined the activities of the Pasteur Institute and the Rockefeller Foundation in the Americas,¹⁹ although national accounts are few and Mexico and Brazil have received most historical attention.²⁰ Ana Maria Carrillo, among other Mexican scholars, has discussed the establishment of the Instituto Bacteriológico Nacional in Mexico City in 1905, which maintained close ties with the Parisian Pasteur Institute.²¹ This institute, like its peers in India, combined basic research with the production of vaccines and sera, although its work

was severely disrupted by the Mexican revolution of 1910–17. Mariola Espinosa's recovery of the domestic American origins of the US war on Spain in Cuba in 1898 moves the familiar story of the American army's sanitary imperialism and yellow fever eradication in a new direction.²²

For the period 1914–50 there is a paucity of accounts of public health outside Europe and North America.²³ After the disruptions due to world wars and global depression, the late 1940s and 1950s saw three large-scale processes – the post-war reconstruction and Cold War ideological conflict, decolonisation and the advent of the World Health Organization (WHO) – that rearranged the supply–demand relationship for vaccines between the West and the rest of the world.

These inter-connections are sketched in James Colgrove's history of immunisation politics in twentieth-century USA, in Randall Packard's outline of 'post-colonial medicine', and in Tania Keefe and Mark Zacher's overview of a the new post-war global governance in which constituents are 'united by contagion'.²⁴ The role of the WHO in immunisation politics throughout this period is very complex, but it should be noted that a bacteriological and biological unit carried forward to the WHO from the League of Nations, and the WHO has maintained the responsibility for standardising and evaluating the world's diversity of vaccinal products.²⁵

The eradication of smallpox by vaccination was envisaged by Edward Jenner as early as 1802, but success was only achieved after the WHO launched a determined global vaccination programme in 1966. The technical and organisational resources for this triumph are surveyed in a monumental official history that includes a dozen distinct regional and country narratives;²⁶ however, this volume touches only lightly on the policy shifts and political accommodations that made eradication possible. A stream of monographs and memoirs have examined these matters in India in depth; the focus on India is justified by the fact that 30–40 per cent of all the smallpox in the world was found in that country in 1967 at the inception of the intensified Smallpox Eradication Programme (SEP).²⁷ In the final stage of the South Asia SEP (1973–75) the WHO flew a sizeable number of foreign (mainly American) physician-epidemiologists into the region to close the ledger once and for all.²⁸ Paul Greenough has described instances of coercion during this last phase in India and Bangladesh, although William Foege, the lead epidemiologist for the South Asia programme,

has denied that coercion was required for eradication.²⁹ The smallpox campaign's success was subsequently hailed as proof not only that eradication was possible, but also that globally coordinated action offered hope for finishing off a number of other diseases. It also inspired the launch of the WHO's worldwide Expanded Programme of Immunisation (EPI) in 1974, and it was effectively cited to justify the launch of the global polio eradication programme in 1988.³⁰

Public health histories since smallpox eradication

Contemporary funders, organisers and managers of immunisation campaigns in both the developed and developing countries are well aware of widespread public scepticism if not opposition. While physical attacks on vaccinators, though not unknown are rare, opposition to vaccination has become common. Increasing numbers of well-educated parents in prosperous countries, each with its unique history of state-citizen encounters, now question the benefits of vaccination for their children.³¹

The editors consider the unwinding and comparing of these histories to be instructive, and they hope the collection will be a bridge between history, the qualitative social sciences and the public health community. While most of the chapters that follow have a critical tone, this should not be taken to imply any rejection of the benefits that vaccines have brought, or a denial of the millions of lives that have been saved.

As editors, our view is that the policies and practices that determine how vaccines are used can only be strengthened by critical analysis and by acknowledgement of past failings. As Anne-Marie Moulin has observed, 'the concept of public resistance to immunisation campaigns [can be] replaced by acceptability, which suggests that selecting the procedures to employ when immunising a given population is a hypothesis that should be evaluated based on history'.³²

Of the many developments affecting public health since the 1970s, two are particularly significant for understanding the current role of vaccination. One is the gradual erosion of the concept of 'international health' (implying the cooperation of sovereign nations in tackling health problems) and its replacement by the concept of 'global health'. Scholars differ in their interpretations of this trend. On the one hand,

the political and legal scholar David Fidler underlines changes in the mechanical facts of pathogenic transmission, especially the rapidity with which dire infections (e.g. SARS, Avian flu, Ebola) spread from place to place through air travel; his conclusion is that effective responses require the subordination of national sovereignties and jurisdictions to global authorities.³³ On the other hand, anthropologists and medical historians, digging deeper, draw connections among 'emerging diseases', 'global health' and new forms of great-power security interests;³⁴ it is argued that the WHO has 'reposition[ed] itself as a credible and highly visible contributor to the rapidly changing field of global health.'³⁵ What is clear is that the global health concept helps legitimate the authority of supranational institutions and programmes. William Muraskin, almost alone among historians, has analysed the emerging structures and incentives that compel many developing countries to line up behind global priorities – in particular global eradication and other immunisation programmes – while reluctantly scaling back their own, locally defined health needs.³⁶

A second development is the emergence of claims by individuals, collectivities and humanitarian organisations to the 'right to health', which implies that governments should become accountable for public health measures to 'the highest attainable standard.'³⁷ A further dimension of health rights is the obligation to interrogate and confront public health authorities whenever they institute arbitrary programmes of surveillance and compulsion.³⁸ If in the classic liberal framework, bioethics favours autonomy and individual choice, proponents of the new sub-discipline of 'public health ethics' argue for the priorities and perspectives of collectives and communities.³⁹ Public health ethics argues, for example, that high levels of vaccination coverage ('herd immunity') serve the collective need and that coverage should be viewed as a public good.⁴⁰

This position blunts accusations that major public health tools like vaccination and its companions 'surveillance and containment' are assaults on individual rights, a stance brought into prominence by AIDS activists in the 1980s;⁴¹ these civil liberties concerns have reappeared in the face of counter-terror measures like 'preparedness.'⁴² Although public health ethics is a limited area of research, it suggests that once public trust in the state is lost, there will be a 'reframing' of vaccination programmes to label them as, in effect, assaults on individuals' rights.⁴³

Historians have documented many times the resistance evoked when state authorities enforce vaccination too energetically. Since the earliest state-led vaccination of infants in mid-nineteenth-century Britain, there was opposition, ranging from simple household-level non-compliance, to parents with cudgels chasing away health officers, to nationwide anti-vaccination campaigns fuelling parliamentary wrangles.⁴⁴ Compulsion, which took the form of repeatedly fining non-compliant parents, inflamed class feeling and sowed antagonism between religious groups. Opposition to vaccination, and to intrusive health measures more generally, eventually caused officials to give ground – for example, when confronted by massed conscientious objectors – and to listen more carefully and speak more cautiously – or more cunningly – to affected publics.⁴⁵ Arguably, sustained opposition to Victorian public health programmes re-shaped the state's administration. Some of the UK's experience was repeated elsewhere, and many a European, American and colonial medical official was forced to back down from the Jennerian vision of smallpox's 'annihilation'. Some degree of resistance was a constant feature in UK and US immunisation campaigns through the 1940s.⁴⁶ Determined scepticism, non-compliance, rejection (whether of vaccinations in general or of specific vaccines) and insistence on the right to choose have become widespread in the late twentieth to early twenty-first centuries.⁴⁷

Vaccination and national identity

In Part I of this book the authors explore how vaccination campaigns and new vaccine technologies have wittingly or unwittingly shaped national identity at different times and places. Paul Greenough's chapter foregrounds difficulties the US Communicable Disease Center (CDC) faced in 1958 in transferring its epidemiological expertise into Cold War Pakistan as a host of political groups, private citizens and other non-state actors vied to rescue the neglected eastern province from raging epidemics of smallpox and cholera. Though the US government saw an opportunity to intervene with vaccines and new methods of surveillance, civil society in East Bengal had already appropriated vaccination and succeeded in reshaping it as a popular project that contributed to the region's emerging anti-Pakistani identity. Chapter 2, by Niels

Brimnes, plumbs discursive resistance to vaccination in India beginning in the late colonial period and continuing well into the early decades of Independence; while there were at least four oppositional positions, elite authors (including Mahatma Gandhi) concurred that a free and self-reliant India would be damaged rather than strengthened by public health immunisation.

The two final chapters in Part I bring to light hitherto 'hidden' vaccination histories by narrating the 'uniting' effects of vaccines on opposed Cold War entities like 'the free world' and 'occupied Europe'. In Dora Vargha's chapter one discerns how a western fantasy of an authoritarian 'communist' top-down approach to vaccination became the model for successful vaccination campaigns in the West. As in the case of East Pakistan in the late 1950s, Cold War tropes played a role in shaping and developing vaccines and vaccination campaigns.

Finally, Eun Kyung Choi and Young-Gyung Paik's chapter brings to light a fascinating story of the four-way contention from the early 1950s through the 1980s among foreign and domestic medical researchers, agents of the government and the pharmaceutical industry and popular perceptions that together helped to shape and re-shape the modern South Korean nation. The chapters in this section thus reflect the mixed record of both top-down and bottom-up enthusiasms for and antagonisms toward vaccines and vaccination, thereby deepening recognition that immunising technologies are growth media that can both foster and erode national and transnational solidarity.

Nationality, vaccine production and the end of sovereign manufacture

In Part II the authors focus on vaccine production, which began around the start of the twentieth century, typically in municipal or state-run public health laboratories. The chapters follow a chronological timeline starting with sovereign state production and ending with diminished (if not privatised) production; this arc parallels significant changes in the organisation of contemporary society and the emergence of a global commoditisation of pharmaceuticals. The case studies of Mexico told by Ana Maria Carrillo and of the Netherlands by Stuart Blume narrate the on and off successes of national (centralised) vaccine production over the last century, showing how decisions were taken

by state actors to manufacture vaccines against particular diseases and how questions of safety and efficacy were handled in vaccine production.

Yet both chapters conclude with a downward spiral and loss of public-sector manufacturing capacity as autonomous production gave way in the face of free market ideology and the resources of the global pharmaceutical industry. In marked contrast, as Jaime Benchimol relates in his account of invention and production in Brazil, the narrative arc of sovereign vaccines and vaccination rose rather than fell as various mid-twentieth century regimes determined to continue making yellow fever and other vaccines; indigenous Brazilian research and production organisations succeeded in acquiring and then innovating on the most advanced vaccine technologies. Brazil thus sets itself apart from the other stories of loss of national capacity under conditions of globalisation; instead it built on the country's earlier capacity for adoption and innovation and underwent a regeneration that is uncommon elsewhere. Julia Yongue tells another unique story of vaccine production in Japan, in which a sense of Japanese uniqueness is traced to the pre-war history of uncoordinated decisions by non-state firms to manufacture vaccines and sera.

Reading these four chapters together clarifies the signal importance of particular individuals and their networks and highlights how closely vaccine production and vaccination campaigns are tied. Above all, this section shows how institutional actors like state agencies, industrial houses, supranational health organisations, local and global philanthropic organisations, have determined distinctive national trajectories of vaccination.

Vaccination, the individual and society

In Part III the authors take up the storms and stresses of bottom-up versus top-down approaches to vaccination in various countries. Andrea Stöckl and Anna Smajdor's chapter analyses the MMR (measles, mumps, rubella) vaccine debate in the UK, 1998–2003, through the lens of Prime Minister Tony Blair's failure to disclose his own son's vaccination status. This chapter links the role of public figures and ideas of 'anti-vaccination' to the erosion of trust within, and between, strata of the British class system. In modern Sweden, with its rather different

social system, and which began to vaccinate early, vaccination has tended to adhere to the idea of Swedish national 'solidarity'. Britta Lundgren and Martin Holmberg's chapter shows this ideal eroded by a scandal that surrounded the last influenza pandemic in which global (WHO) criteria for administering a national campaign were substituted for the usual Swedish ones; subsequently serious side-effects were found in some vaccinated Swedish children.

Elisha Renne's case study of polio vaccination in Nigeria shifts the focus to current politics of vaccination campaigns that focus on global eradication, and which are strongly backed by supranational and philanthropic organisations that sideline regional and national concerns. The proponents of such campaigns take it for granted that governments lack the resources and the competences – and some would say the right – to determine their own vaccine needs and to meet them through production or procurement. States like Nigeria have no choice but to rely on donors' largesse and the policy directives that accompanies it. This is of course still more true of smaller countries, where independent vaccine production is wholly infeasible, and where health systems are largely dependent on donor funds.

To summarise, Part III reveals that vaccination technologies, which once flourished as a means by which nation-states demonstrated their power to protect their citizens and keep them immune in times of epidemics, have now become another medium by which weakened states in the north (or states in the south with weak governing capacity) exemplify the loss of an older index of health sovereignty to market globalisation. As noted, Brazil is a striking exception to this generalisation.

Part III also invokes the figure of the individual, whose rights, choices and health security under epidemic conditions are all conditioned by a looming, anxious state. These chapters nicely demonstrate the collective tropes and implicit understandings according to which a healthy 'society' functions, and how choice-bearing 'individuals' are conceptualised, idealised and historically situated as members in coherent national 'societies'. In the afterword William Muraskin demonstrates how illusory these scripted notions of rights-bearing individuals who are protected by their state can be.

Muraskin unravels the astonishing circumstances in which a few (white male western) individuals, acting in concert with global

institutions that they either control or can steer, have been able to turn global vaccination policy toward their favoured practice of disease eradication.

Notes

- 1 Following common usage, 'vaccination' and 'immunisation' are used interchangeably throughout. Similarly, the terms 'immunisation programme' and 'vaccination campaign' are equivalent.
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- 3 S. Blume (Chapter 6); B. Lundgren and C. Holmberg (Chapter 10); W. Muraskin (Afterword); E. Renne (Chapter 11); A. Stöckl and A. Smajdor (Chapter 9).
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- 13 For example, P. J. Weindling (ed.), *International Health Organisations and Movements 1918–1939* (Cambridge: Cambridge University Press, 1995).
- 14 M. Echenberg, *Plague Ports: The Global Urban Impact of Bubonic Plague, 1894–1901* (New York: New York University Press, 2007).
- 15 Ilana Löwy ‘Producing a Trustworthy Knowledge: Early Field Trials of Anticholera Vaccines in India’, in S. A. Plotkin and B. Fantini (eds), *Vaccinia, Vaccination, Vaccinology: Jenner, Pasteur and their Successors* (Paris: Elsevier, 1996), pp. 121–6; P. Chakrabarti, *Bacteriology in British India: Laboratory Medicine and the Tropics* (Rochester: University of Rochester Press, 2012).
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 - 23 But see S. A. Amrith, *Decolonizing International Health: India and Southeast Asia, 1930–65* (London: Palgrave 2006).
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