

# Introduction: Global Technologies, Personal Worlds

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*A school teacher in the town of Gueckedou, on Guinea's border with Liberia sees rebel forces with child soldiers destroy his town in 2001, and worries that children's vaccination has created a strengthened but more violent generation.*

*A mother in southern England is taken to the High Court by her ex-husband over her refusal to allow their child to have the controversial measles, mumps and rubella (MMR) vaccination.<sup>1</sup>*

*Former guerilla fighters in a village in Mozambique seek vaccinations and are angry that government clinics will vaccinate only children, marginalizing their adult political rivals.*

*Datti Ahmed, a doctor and president of Nigeria's Supreme Council for Sharia Law, tells journalists: 'We believe that modern-day Hitlers have deliberately adulterated the oral polio vaccine with anti-fertility drugs and contaminated it with certain viruses which are known to cause HIV and AIDS.'<sup>2</sup> Polio soon resurges from Nigeria across Africa and beyond, sweeping aside the global polio eradication campaign.*

*Marlon Brando as 'Kurtz' in the film 'Apocalypse Now' relates how Viet Cong cut the arms off all the children that the US Army had inoculated with polio vaccine in a Vietnamese village. Yet this fictional refusal of cultural and spiritual pollution by America's campaign 'to win hearts and minds' has a factual base.<sup>3</sup>*

Such scenes, unfolding in places across the globe, reveal how much more there is to vaccination<sup>4</sup> than children's health. Vaccination – and especially mass childhood immunization – is acclaimed as the most successful and effective form of public health intervention that there has ever been. It has acquired a special

character, symbolizing high hopes of lives saved, diseases eradicated, and the power of medical technology in an apparent triumph of science over nature. Such hopes justify mass actions that appear to rise above politics. From the smallpox vaccination campaigns of 19th-century Europe, to the international community's growing investments in mass childhood immunization across the world, this technology offers a universal promise of disease control that can appear to trump national and local interests. Wars have been suspended for vaccination. In 1990s Sierra Leone, the United Nations Children's Fund (UNICEF's) immunization programmes continued to cross rebel front lines when even food convoys did not. Vaccines lend themselves easily to representation as an incontestable public good.

Vaccines are also special in linking the most global with the most local and personal. Aiming to reach every child on the planet, vaccination technology has a uniquely global character. Vaccines are produced, distributed and monitored within systems that are equally globalized. Yet vaccination reaches from the global into the most intimate world of parenting and care. At the needle point, the most global meets the most personal of worlds. As a technology, it enters the intense social world in which parents<sup>5</sup> and carers seek to help their children flourish, spanning genders and generations, comrades and communities, and advice givers. These are everyday worlds that vary enormously across the globe, and over time. Within them, some jostle for vaccination. Others jostle against. Through thinking and talking about vaccination, people often express a great deal about what they value, who they are and whom they identify with.

Controversies over vaccines feed cornerstone debates of our time. For while vaccination is easily represented as a universal, neutral good, it is actually deeply bound up with politics: with struggles over status, authority and value, writ small and writ large. Thus as some British parents from the 1990s refused to take their children to receive the MMR vaccination, fearing that it would trigger autism, the debates that swirled through policy, professional, media and popular circles ranged widely. They variously evoked notions of trust in government; of media responsibility; of scientific impartiality; of parental choice; of citizenship rights, and of the appropriate limits of government action and enforcement in a liberal democracy. From 2003, some northern Nigerian parents refused to take their children to receive oral polio vaccination, fearing that it would reduce their future fertility or infect them with HIV as part of a genocidal plot against Islamic Africa. Again debates and commentary expanded into far wider questions of governance. They invoked the relations between local and national government; trust in federal government and its global sponsors; the motivations of US foreign policy; scientific impartiality (Whose science? Whose vaccines?); the value of different health priorities, and, as Nigerian news spread across the airwaves and polio cases reappeared across the region, the role and responsibility of media in a globalized world.

This book is therefore a book about global technologies, governance and their intersection with social worlds. We explore how experiences of vaccination are simultaneously experiences of the body and its health, of social relations, and of wider governance and politics. At the same time, a focus on vaccination draws us into much broader public debates (and professional writing) about science

and technology, and about the nature of contemporary society. We explore how debates thrown up around vaccination have animated existing public debates such as to affirm and put into play a range of stereotypes – about modern society, about western society, and about African society. What, we ask, is the validity of these ideas? What are they doing? And what might they be hiding?

A notion of anxiety is a central anchor in current debates and in our exploration of them. Anxiety, though, is a double-edged word. Used in a negative sense, anxiety implies a state of unease, worry or concern. Yet it also has a positive meaning, implying an earnest, focused desire for something, or to do something. Recent policy discussions and social science writing have emphasized the first, negative meaning. ‘Vaccine anxieties’, in this sense, are seen as worries about vaccines. Anxiety easily becomes part of an explanation for instances of public refusal or dissent from vaccination, or for controversies. Thus in the British MMR controversy, a negative sense of anxiety is invoked by commentators attributing vaccine refusal to parents’ overblown sense of risk and loss of trust, whether ascribing this to everyone or to the ‘anxious middle classes’. Some see this vaccine anxiety as a manifestation of a broader ‘age of anxiety’ afflicting contemporary western society (Fitzpatrick, 2004; see also Furedi, 2001). A negative sense of anxiety tends to be manifested differently in discussions of Africa and Asia. Here, commentary has emphasized the role of particular individuals and groups in propagating anxieties, and their easy spread among populations who lack a modern understanding of vaccination. Vaccine anxieties, in this sense, are linked either with anti-vaccination ‘rumours’, or with collective resistance (e.g. Streefland, 2001). In both settings, anxiety is imaged in its negative sense in terms of a departure from an unproblematized acceptance of public health routines, towards greater, if misguided, reflection.

Yet such discussions, and the images of society that they produce, overlook the positive meaning of anxiety, and its implications. Anxiety can imply a striving for something and recognizing this is crucial. First, it attunes us to circumstances in which people are anxious for vaccination. Having a child vaccinated may not, in this sense, be a question of passive acceptance of established, normal public-health routines, but a matter of more active demand (see Nichter, 1995; Streefland et al, 1999). This positive sense of anxiety invites exploration of the issues, values and forms of knowledge underlying such demand, and the extent to which they match (or fail to match) the expectations of public health professionals and policy makers. And it draws attention to the sense of let-down that people may feel when their own expectations of vaccination – its availability or effects – are unmet. Second, a positive meaning of anxiety allows us to recognize that people can be anxious for child health and wellbeing more broadly – and that the place of vaccination in this can be more problematic. Where people dissent from, question or fail to respond as expected to public health messages, a common tendency – using a negative sense of anxiety – is to interpret this in terms of ‘failure to understand’, a ‘breakdown of trust’, and so on. But as we shall argue, it is more productive to ask, in a more positive sense, what people expect and desire around child health and why – and why at times vaccination is failing to match those desires.

Appreciating the positive in the double-edge of anxiety has broader implications for understanding public engagements with science and technology. Many debates about and explanations for controversies over public issues involving science are framed in terms of public (mis)understanding or lack of understanding of science, technology or its risks. In an extension of this ‘deficit model’, the lack may be not just of knowledge, but of trust – in both science itself and in its governance. The emphasis is on the negative – deficits of knowledge, deficits of rationality, deficits of trust – on the part of the public. And in response, scientific institutions are called to respond by winning hearts and minds.

But this well-established set of perspectives, in focusing on what people do not think or understand, misses what they do think and understand. It obscures why what they do think might make sense, as part of their everyday lives and experiences, values and conceptualizations of the issues involved. It misses the opportunity to identify the ‘framings’ – forms of knowledge, value and social commitment – that people bring to an issue, and which shape their anxieties about it, whether positive or negative. And it misses opportunities to identify mismatches between people’s framings, and those of the institutions involved with science or governance. A positive perspective that focuses on the ways in which members of the public frame issues involving science and technology, in turn, suggests that similar questions should be asked of those developing and promoting technologies, or exerting authoritative governance over issues involving science. How, one might ask, do scientific and policy institutions frame the issues, and what kinds of knowledge, social and political values and commitments do these framings embody? This will shed light on why it is that scientific and policy institutions represent the public in the ways that they do.

The relevant question, then, is not how the public understand or engage with science and technology as if it were neutral and universal, but how different framings of a problem – among scientific and policy institutions, and a variegated public – have emerged. Crucially, however, we need to go beyond this ‘symmetrical’ approach (e.g. Jasanoff and Wynne, 1997) to consider how policy and public framings have emerged in relation to each other; how they interact. This is a core emphasis of this book. It is not enough simply to draw a contrast between science/policy and public framings, or between globalized and personalized ones, as if they were part of distinct, separate lifeworlds. Rather, crucial questions concern how these contrasts arise, become manifested and consolidated, and how the social and political interactions they shape themselves play into this.

### **The problems with vaccination**

At heart, this book is concerned with some very practical problems. It takes as a starting point the great gulfs that often exist between people’s senses of themselves – the people, in this case, being parents and carers of children in diverse settings in Africa and Europe – and the stereotypes applied to them by health professionals, policy makers and media commentators. These gulfs are unhelpful for everyone.

They are unhelpful for public health officials trying to increase immunization coverage, who often find their education and communication efforts ineffective. They are unhelpful for the funders and international organizations promoting large-scale disease eradication campaigns, when they lead to these being derailed, and to diseases once again finding a foothold. They are unhelpful for parents frustrated in their engagements with health services. And they are unhelpful for those children who die as a result.

For many people, the problems of vaccination are not controversial. Rather, they are well-known and long established: getting good coverage through improving supply and infrastructure, and improving uptake through education. The challenges lie mainly in tackling the resource and system constraints that prevent vaccination technology and knowledge being extended to all. This book does not dispute the value of such efforts, but it does expose the limits of this comfort zone.

For others, the big challenges lie at a larger scale: in creating the right vaccines to tackle major and emergent disease problems, and developing cost-effective ways to deliver them. This book does not deny the crucial importance of such vaccine innovation, but it does show why grand challenges need to be matched with attention to how parents will engage with these efforts. It also shows that in a world of aggrandizing and globalizing vaccination programmes, parental understandings sometimes come to include dimensions of the larger political economy of vaccine development in ways that can prove problematic, feeding back to derail the programmes themselves. It is these gulfs which are the focus of this book. They recur in vaccination research, development and delivery; in routine mass childhood immunization and disease eradication campaigns.

## **Vaccination as technology and technocracy**

Vaccination is high on both national and international policy agendas. Long-regarded as a highly effective, and cost-effective, public health intervention (WHO/UNICEF, 1996), mass childhood immunization is now receiving renewed international attention. While vaccines protect individuals, high levels of coverage can build up social or ‘herd’ immunity against certain infectious diseases, so personal and social immunity, and possibilities for disease eradication frame public health strategies. A variety of initiatives and investments are focusing on improving access to immunization services, expanding the use of existing vaccines and accelerating the development and introduction of new ones.

As technologies, vaccines are still in their infancy. New generations of ‘DNA’ vaccines are emerging. Needle-free delivery is being perfected. The promises of vaccines grown in plants or introduced into foods are materializing. Nano-science and technology offer as yet uncharted delivery techniques. New combinations of vaccines are constantly being created, offering greater efficiency and coverage as ‘three-in-one’ jabs become four-in-one, or five-in-one.

These technological developments contribute to a powerful vision of technological progress. This vision encompasses vaccines against poverty and vaccines against excess. Thus unprecedented international investments target the ‘killer

diseases' associated with modern poverty. These portray vaccination as a key route to tackling pervasive ill-health in Africa and achieving the Millennium Development Goals to reduce childhood mortality, and as a moral imperative as part of global development efforts (Obaro and Palmer, 2003; Smith and Woodward, 2003). At the same time, solutions to the excesses of northern over-consumption through vaccination are envisaged, through inoculations against obesity, drug addiction and cancer.

In the context of these overall narratives of technological progress and promise, many lament how slow innovations have been for vaccines against malaria, HIV and other hard-to-tackle diseases that primarily affect the global south. They question the limited public funding that has been available for this, and the preference of pharmaceutical companies to focus on profit-generating markets – thus favouring curative drugs over vaccines, and northern over southern settings. To speed up vaccine innovation for development, a variety of new aid and philanthropic initiatives now link with pharmaceutical companies in innovative forms of partnership. These go beyond their common labelling as 'public-private' as they involve an array of coalitions between wealthy and poor governments, vaccine manufacturers, non-governmental organizations, research institutes, foundations and international health organizations, often involving protracted negotiations to launch and sustain. The largest of these is the Global Alliance on Vaccines and Immunization (GAVI) launched in 2000, together with its financing mechanism, the Vaccine Fund (Heaton and Keith, 2002; Muraskin, 2004, 2005). The International Aids Vaccine Initiative (IAVI) also brings together developing country organizations and northern research outfits, both public and private, to further HIV vaccine research and wider policy through operations in 22 countries. By 2004 IAVI had raised over \$340 million (Chataway and Smith, 2006). The Global Fund to fight Aids, TB and Malaria (GFATM), launched in 2002 following a call by the UN Secretary General and a decision by G8 countries, is a large, international, independent public-private partnership designed to attract and manage significant new sums of money – from governments, foundations and the private sector – to address these three diseases, including through vaccine innovation and delivery.

While the aim is to extend vaccines to every person on the planet, their production has become increasingly concentrated, and is set to become more so as technological sophistication intersects with global regulation and patenting. Debates about intellectual property and generics will affect future production possibilities, including the viability of, for instance, small Asian companies that have been attempting to produce cheap vaccines for the poor.<sup>6</sup> Some argue that the restrictions on property rights are a real constraint to making them available, or to promoting public – as opposed to private, commercial – values.

In the regulation of vaccines and research into them, as for other pharmaceuticals, national issues encounter a world of global standardization. The trend of the past few decades has been to expand intellectual property regimes globally, and indeed an obligation is to comply with the TRIPS agreement under free-trade rules set by the World Trade Organization (WTO). In this context, the spectre of smaller companies becoming part of outsourcing arrangements in larger networked conglomerates controlled by big pharmaceutical companies

seems likely. If such a scenario unfolds, and given the disincentives for large pharmaceutical companies alone to invest in vaccine development, the significance of international public–private–philanthropic partnerships in meeting vaccine development needs for the global south may increase further.

Aid funding in these partnerships is not entirely altruistic. First, the rich can catch the diseases of the poor. In a world of mobile people and microbes, eradicating infectious diseases is increasingly a global public good (Kaul and Faust, 2001) – an agenda of mutual north–south self-interest that has undoubtedly played a role in pushing immunization up international political agendas. In what Fidler (1998) calls microbialpolitik, infectious disease control has become central to international relations, as an international security issue. In this light, it is no surprise that a major funding source for the development of vaccines derives from the US military. Second, many of the component technologies that contribute to vaccine development can also contribute to the production of bio-weapons. This ‘dual use’ potential contributes to the stringency of the regulatory frameworks that surround vaccine development. It also contributes to a climate of fear that in turn supports geo-political and geo-commercial monopolization. In short, vaccines are produced within a very political economy. And while vaccines and vaccine technologies may be multiplying, their production is becoming increasingly concentrated.

The technology involved with vaccination extends beyond the vaccines themselves, to encompass a range of technologies of vaccine delivery – from needles, syringes and oral droppers, to refrigeration, transport and technologies of population registration and record-keeping. To make the technology work also demands interventions and strictures of timing, scheduling and coverage. Thus along with vaccination technologies have emerged vaccination technocracies, in the sense of institutional and governance regimes devoted to ensuring timely delivery and uptake.

While state governments and their health systems have assumed primary responsibility for vaccinating their citizens, there has long been an international dimension to vaccination technocracies and this too is increasing today. Thus a variety of global alliances and forms of international donor support have emerged to support health delivery systems. In many parts of Africa and beyond, donor funds have long been used to support immunization amid struggling state health systems. Impoverished governments have, with international support, sometimes attempted to maintain and expand vaccination delivery systems even as crises and trends towards privatization affect other aspects of their health delivery. That vaccination delivery has been sustained through protracted conflicts is an extreme example of this.

International investment in vaccination delivery has recently been spurred by arguments that it is a moral imperative as part of poverty reduction efforts. Whether underlain by such arguments or by global mutual self-interest in controlling disease, the result has been a proliferation of international initiatives to improve delivery and access to immunization services. International non-governmental organizations (NGOs) and global funds invest in the personnel, resources and infrastructure to spread coverage to the remotest rural regions.

Modes of vaccine delivery, their financing and international support to them vary. Sometimes immunization is embedded within wider strategies and systems to deliver primary health care and mother–child health services. This has been the focus of donor support mechanisms in recent years, with their emphasis on (health) ‘sector-wide’ approaches. Yet so-called vertical programmes, in which a dedicated set of institutions and financial arrangements are responsible for immunization, often persist. Recent global funding mechanisms focused on the control of particular diseases are tending to re-enliven a top-down, vertical approach, promoting globally orchestrated, highly focused campaigns such as the Global Polio Eradication Initiative – for which fleets of vaccinators move out across entire countries and regions at particular times of year, aiming to reach every child. How the campaigns intersect with the institutions and actions of government health systems often illustrates the power of global technocracies, and the limits these place on national sovereignty. White’s (2005) argument that vaccination programmes in colonial and post-independence Africa were exercises in the practice of global or ‘un-national’ sovereignty may acquire renewed relevance in a world of global alliances against what are perceived as global disease threats. At the very least, it is evident that vaccination is not just a global health technology, but also part of a global health technocracy that is remoulding health services across the world.

### **Techniques for compliance**

Vaccination delivery is not just about getting vaccines to those who ‘need’ them. It is also about getting those who need them to take them up. Put another way, what are conventionally described as ‘supply side’ concerns with vaccine availability, infrastructure and accessibility meet ‘demand side’ concerns with ensuring ‘acceptance’. Vaccination technocracies deploy varied techniques which mobilize different modes of influence, and which are more or less legitimate and feasible according to the political setting in question.

First, some strategies have made use of force and compulsion. This was the case for the early smallpox eradication campaigns in 19th-century Britain, for instance, when vaccination was made mandatory. Colonial vaccination campaigns in many parts of Africa and Asia (e.g. Vaughan, 1991) similarly relied on compulsion and coercion, sometimes orchestrated and enforced by military troops. Similar strategies sometimes continued in the post-independence era, for instance in the smallpox vaccination campaigns that the World Health Organization (WHO) ran in Africa throughout the 1960s and 1970s (White, 2005) and in the approaches adopted by a number of national governments.

A second set of techniques to promote uptake has associated vaccination with (legal) rules linked to material benefits. For instance, proof of having had childhood vaccinations is a prerequisite to school entry in the US. In France, it is a requirement for access to certain welfare and tax benefits. In contemporary African settings, less formal rules and practices have linked vaccination to various material incentives. Having one’s infant vaccinated can thus be a condition for access to other health or development benefits such as free anti-malaria bednets,

or to avoid having to pay fines imposed by local clinics and their health workers.

Third, strategies aim at instilling vaccination as a habit, and inculcating a desire for it. The former emphasizes the incorporation of vaccination into parents' 'normal' routines and practices, so that it becomes an unproblematic matter of unthinking, passive acceptance or of community practices (social demand). Inculcating a desire, by contrast, emphasizes a more active form of demand (see Streefland et al, 1999). Techniques focused on education, persuasion and reminders to those who 'forget' address both. Thus in Britain, for example, a set of educational strategies through brochures and pamphlets, media and websites, and information and advice-giving by primary healthcare workers has in recent years been the main means to encourage compliance, aiming to persuade parents of the value and importance of vaccination. This is backed up by computerized child health surveillance systems and practices of sending call-letters and reminders. Through much of the 1990s, these techniques were also linked to material incentives offered to health workers through a system of giving extra financial benefits to doctors' practices that met immunization targets. Education-based strategies are also central across Africa. Thus the design and promotion of Information, Education and Communication (IEC) approaches have become central to the work of international agencies concerned with health. Government health ministries and their immunization departments frequently have dedicated information and education programmes. And in many settings, the 'health talks' that persuade and remind mothers why they should bring their infants for immunization have become a standard part of clinic routines.

These different strategies involve different relationships between public health institutions and parents. They also rely on particular assumptions about the nature of social and individual action; assumptions about what it is that brings people to have their children vaccinated, and to conform or not. But are these assumptions warranted? Are the institutions involved with vaccination and public health getting it right?

This book is an attempt to understand what does bring parents to have their children vaccinated, in different settings, and what leads them, sometimes, not to. To do this it considers parental vaccine anxieties in both their positive and negative sense. It is also an exploration of what institutions involved with vaccination and public health policy assume is going on, and the dynamic processes through which these worlds interact and shape each other.

## **Approach and strategy**

As we have observed, there is hardly greater attention that someone can give to another than that which a parent gives to a child, and no greater field for anxiety. Childcare decisions involve both acute personal reflection, and intense social interest in societies everywhere.

In this meeting point between the global and the personal that is vaccination, it is unsurprising – perhaps inevitable – that clashes and concerns sometimes arise. Public concerns about vaccination, and controversies around it, date back as far

as the technology itself (Allen, 2007). As we shall be exploring, these concerns are at once bodily, social and political. Analysis of them needs to address how the body and health are understood and experienced and the place of vaccination in this. It needs to address the nature of the social worlds that vaccination becomes part of; worlds that involve relations within families, communities and clinics. It also has to comprehend wider political experiences: people's encounters and imaginings about health and related institutions nationally and internationally, and the broader political and economic worlds in which they are embedded.

In this book, we make three key arguments. First, we argue that these three dimensions – the bodily, the social and the broader political – are more connected than might appear at first sight. We suggest that these dimensions co-emerge with each other in parental thinking and practice. A focus on vaccine anxieties – on instances where parents express anxious desire for or against vaccination – can reveal the particular ways in which these dimensions come to be coordinated. Second, we argue that, in a symmetrical way, one can recognize a parallel co-emergence in public health institutions and policy, where perspectives and practices also involve bodily, social and wider political dimensions. Third, we argue that these parental and policy worlds interact through encounters and in ways that shape both. The apparent distinctiveness of parental and policy worlds of knowledge and practice, and the gulfs that often appear between them, is thus not a matter of a priori distinction, but of making and re-making through actual practices of communicating and relating. Importantly, this means that these distinctions are open to change; to blurring and bridging in ways that could have positive outcomes for all concerned.

How parents understand and experience these bodily, social and wider political dimensions of vaccination occupies much of our attention in this book, not least because parents' own views and experiences have so often been submerged and obscured by dominant biomedical and policy framings of vaccination issues. Methodologically, a major aim is to rescue and bring to light parental framings, and to show how they make sense in their particular contexts. Secondary aims are to consider the perspectives of those involved with vaccination policy and delivery, and to examine how these framings interact: how the production of knowledge by institutions of policy and public health leads them to interpret and act in relation to parents in particular ways; and how parents embody and reflect on these interactions in ways that shape their understandings and action.

Research with such aims has to be grounded in particular places and cases. Not only have different countries taken starkly varied approaches to delivering and promoting uptake of vaccination, but the nature of emerging public debates around vaccines is also deeply inflected by local and national political history and culture, and by the legacy of particular interactions between populations and institutions of the state, of science, of civil society and of the media. For while vaccination is part of globalized technological and technocratic orders, the contrasting ways that different regions, countries and localities engage with these reveal different ways that bodily, social and political orders are co-experienced, and forged in relation to them.

Located, historical analyses of controversies around vaccination – whether of dissent to smallpox vaccination in Britain (Porter and Porter, 1988; Durbach, 2000, 2005) or to colonial vaccination campaigns in Africa (Vaughan, 1991; White, 2005) or Asia (Nichter, 1995) show the very varied forms that these have taken, linking with wider social and political issues of the place and the day. In a similar way, contemporary social science studies of vaccination often take pains to emphasize the specificity of their social contexts (e.g. Colgrove, 2006; Samuelson, 2001). Such works call into question arguments that public controversies are part of a singular phenomenon that some have glossed as ‘anti-vaccinationism’ or an ‘anti-vaccination movement’ (Poland and Jacobson, 2001). They serve to qualify popular and policy views that today’s vaccination controversies have developed and built from those of the past as part of a continuous, linear history (e.g. Wolfe and Sharpe, 2002; Baker, 2003). And they serve to qualify current arguments about the globalization of dissent, which hold that given the globalization of networks, pressure groups, media and internet communication, today’s anti-vaccinationism threatens to become as global a force to be reckoned with as the pro-vaccinationism it opposes.

Yet located social studies of vaccination have also – often unwittingly – contributed to the emergence of stereotypes about place. Focused on particular places in either Europe and the US, or Africa and Asia, they have often framed their questions and interpreted their findings in line with wider policy and analytical debates dominant in, or about, those places. This has played into the emergence of contrasting analytical traditions concerned with Africa and so-called ‘southern’ settings on the one hand, and Europe and ‘northern’ settings on the other. The result has been the emergence of some powerful views that frame what is going on around vaccination in these places in very different ways. Thus, as we explore in more detail in the next chapter, dominant debates about Africa and ‘southern’ settings see instituting modern health services as the key problem, and link vaccine worries and controversies to collective concerns and ‘resistance’ grounded in religion or tradition, imaging them, in effect, as pre-modern. In contrast, dominant debates in and about Europe associate vaccine worries with individualized, misguided notions of risk and with a breakdown of trust, imaging these as phenomena of late or post-modernity. Both views image vaccination itself as quintessentially modern. Thus dominant debates cast African and European societies as engaging with modernity in sharply contrasting ways.

But neither analyses in terms of continuity – emphasizing the enduring nature and globalization of vaccine controversies – nor those that rely on and reproduce strong discontinuities between Africa and Europe are sufficient. What is needed is to address what is distinct about the ways vaccine anxieties have emerged in particular times and places, and to do so using an analytical framework that does not depend on any particular policy view or regional analytical tradition. This is what our approach aims to do. It is only in this way that the merits or otherwise of these broader arguments can be assessed.

To facilitate this approach, we deliberately focus on places and cases where vaccine anxieties would, at first sight, seem to conform closely with pre-modern or post-modern stereotypes. Thus we explore cases from the African Republic

of Guinea and The Gambia, where modern health services are being extended, and increasingly integrating with ‘traditional’ practices. We look at the anxieties thrown up by the conduct of trials of new vaccines, in which reluctance to participate could be interpreted as grounded in ‘tradition’, religion or inadequate understanding of modern science. We also look at the controversy around polio vaccine in recent years in northern Nigeria, which could easily be interpreted as collective resistance orchestrated by religious and political leaders. In apparent contrast, we focus on the recent anxiety around the MMR vaccine, focusing particularly on how this has unfolded in southern England. This has become a case around which policy, popular and social scientific arguments articulate a loss of trust, emerging irrationality and misperception of risk, and increased individualism.

By focusing on unfolding processes in these locations, we can assess the validity of these dominant arguments, and reveal issues that they obscure. We can interrogate the validity of generic explanations that differentiate experiences across the globe, as well as those that attribute resistance to global connectedness. We can discern how the views and explanations circulating in policy circles and professional health communities are manifested and reproduced in particular places, and in engagements with parents. And we can consider conditions in which these interactions strengthen dominant views, and in which they might undermine them.

By considering, ethnographically, the nature of vaccine anxieties in particular settings, we attempt to avoid the pitfalls of studies that take policy dilemmas to frame their studies. Social science studies in which questions are framed by the terms of policy debate – or indeed by dominant regional analytical traditions – we will argue, can contribute dangerously to the reproduction of policy stereotypes, by providing supportive social science analyses that serve to uphold them. Instead, in our analyses of parental worlds, rather than start with a (policy-driven) question such as ‘why do parents demand or refuse vaccination?’, our ethnographic approach starts from considering parents’ broader perspectives on raising a good healthy child in that setting, and how vaccination fits into this. In this respect, this book follows a strong tradition of ethnographies of technologies-in-use, and their users, attentive to the specificity of located knowledge and practice, and the specific transformations of meaning that technologies undergo in social settings (Richards, 1985; Latour, 1987; Fairhead and Leach, 1996; Mol, 2003). But it is also more than this. It is also an analysis of how dominant scientific and policy discourses are constructed, reproduced and put into practice (Keeley and Scoones, 2003; Fairhead and Leach, 2003; Agrawal, 2005). And to reiterate, by examining these together, the book is able to consider how each is implicated in the other.

## **Methods and structure**

In exploring each focal case, we explore parental understandings and experiences of child health and vaccination, addressing bodily dimensions to vaccine anxieties. We explore the social relations of child care and vaccination, within families,

communities and with ‘frontline’ health workers, addressing social dimensions to vaccine anxieties. And we explore parents’ views and experiences of wider political and political–economic dimensions that have a bearing on vaccine anxieties. In parallel, we explore the views of those working in the vaccination policy and delivery worlds that these parents engage with, and the nature of these engagements.

A variety of research methods contributed to these inquiries. Central among these were informal conversations and participant observation in assorted social settings where parents take babies and small children. This enabled the research to pick up on ways that people talk about their children’s health, and its responsiveness to social relationships. We also observed settings of vaccination delivery at a variety of clinics and health posts, to consider interactions between parents and with health workers. We complemented this more informal approach with interviews, both with some of these parents and with health workers, to consider their particular experiences and perspectives in greater depth. The majority of interviews took a narrative form, enabling people to speak widely around the issue and reflect what they regarded as most important (see Mattingly and Garro, 2002). For several of the cases, we developed and used a particular narrative method focused on the health biography of a particular child. In the British, Guinean and Gambian cases, we also built a questionnaire survey from the ethnography to consider the wider significance of the parental perspectives emerging. In all settings, we tracked how debates concerning particular vaccine anxieties were represented in broader popular and policy debate, drawing on sources from the media and policy documents. Later chapters detail how this set of methods was refined and conducted for each location.

Conducting ethnographic work in several sites involved a variety of forms of collaboration. Some of these were intense partnerships with social science researchers from the regions concerned. We also worked with parents’ organizations and wider networks of colleagues who became part of the research in the different locations. Other forms of collaboration involved biomedical and public health research, policy and implementing agencies that face challenges to improve vaccine research and vaccination coverage. Our research was conceived in collaboration with several such agencies both in the countries concerned, and internationally, in the spirit of a shared interest in bridging gulfs between themselves and their publics. That we had different ideas about the nature of these gulfs was, in many cases, apparent at the start and only became more so as the research progressed.

The next chapter focuses on representations of vaccine anxieties that emerge from public health and policy institutions, drawing mainly on documentary and media sources. By critically exploring their framings and the stereotypes that emerge, we pave the way for a fuller justification of the analytical approach we take in the book. The following chapters apply this in case study settings. The first two case study chapters focus on south-east England, exploring different aspects of the vaccine anxieties that unfolded around the MMR vaccination. Thus Chapter 3 addresses how emerging uncertainties about MMR played into and altered parents’ thinking and practices about immunization for their children. Chapter 4 explores the perspectives and practices of those more directly caught up in

the controversy, concerned that the MMR vaccine had damaged their children's health – and how they interacted with the scientific and policy networks that soon emerged in opposition to them. The next two chapters address African settings. Chapter 5 explores bodily, social and wider political dimensions of 'routine' vaccination engagements in settings in The Gambia and the Republic of Guinea. This includes the case of oral polio vaccination in Nigeria as a dramatic instance of mass vaccination refusal. Chapter 6 extends these concerns in The Gambia to understand how anxieties around vaccine trials unfolded there.

In bringing these diverse British and West African cases together, our aim is less comparison than juxtaposition, to discern the particular ways that anxieties can play out in different locations. But rather than simply a juxtaposed set of ethnographies, the collection also adds up to what, in some respects, is a multi-sited ethnography (Marcus, 1995). This tracks a technology and technocracy through different geographical and social settings, to discern both the located meanings they acquire, and how their global characteristics are locally understood.

In tracking a global technology and technocracy in this way, and in exploring their unfolding mutual construction with social processes, we move beyond an anthropology of globalization that looks simply at how global phenomena are locally apprehended and interpreted. Considering a global technology across sites in both the global 'north' and 'south' enables, also, a critical engagement with distinct literatures that have emerged around each, including northern-focused science studies, and the anthropologies of modernity and postcolonial technoscience (e.g. Anderson, 2002) that address southern settings. Through this critical engagement, we aim to advance more productive and less bounded ways of understanding people's engagements with technology in a contemporary world. We aim, too, to recover modes of understanding and debate that better grasp the ways that people are actually thinking about, experiencing and imagining technologies. Vaccination provides both a potent lens through which to do this, and a set of practical challenges to which such an approach is essential. For, if the promises of vaccination are to be realized, even partially, then overcoming the gulfs between public and policy views of them will be vital. Understanding vaccine anxieties, in all their positive as well as negative senses, is an essential step towards this.

## Notes

- 1 <http://news.bbc.co.uk/1/hi/health/2093003.stm>, accessed May 2007.
- 2 'Vaccine boycott spreads polio', News 24.com, South Africa, 11 February 2004.
- 3 See Norris (1998) and Mambro (2002).
- 4 While the term 'vaccination' refers to the act of vaccinating someone, the term immunization strictly refers to the process of 'making immune', and thus depends also on the body's (successful, immunological) response to a vaccine. In this book we use the terms interchangeably, as indeed does much professional and policy debate.
- 5 We generally use the term 'parent' in this book as shorthand for a child's main caregiver, while recognizing that this is, of course, not necessarily his or her biological mother or father.
- 6 See 'Indian pharmaceuticals: Good chemistry', *The Economist*, 4 February 2006.