

Introduction

Global Vaccine Logics

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Medical anthropologists have long located their work at sites of illness, sickness, and disease, where people and their kin experience physical and highly emotional states of discomfort brought on by social, political, biological and environmental happenings. The collected papers in this *Anthropologica* thematic edition focus on how powerful global assemblages and political economies affect vaccine development, manufacture, regulation, and distribution in early twenty-first-century neoliberal technoscience and post-colonial cultures. This volume expands the social science scholarship on vaccines beyond ethnographic contributions to clinical studies of their pharmacological protective and therapeutic implications to reveal the global logics of vaccine making.

As potential preventatives, vaccines offer the promise of holding at bay infectious diseases once as common as diphtheria, pertussis and measles, as deadly as smallpox and polio, as slowly emerging as cervical or liver cancer, and as globally threatening as Ebola, COVID-19 in recent memory, and Pathogen X, just around the corner. A jab carries a symbolic and material dispatch for preserving health; it can transform a prospective pathogenic assault into an unnoticeable insult. Those reduced insults undermine the usual signs, symptoms and outcomes of infectious disease in a variety of ways, including their ability to reduce the severity of a disease and its transmission or to prevent it entirely. Such actions became recognized worldwide during the COVID-19 epidemic, when the science of vaccine safety and efficacy and disease transmission before and after vaccination entered the common lexicon. Information about epidemics, as well as mis- and dis-information about

vaccines, circulated everywhere across social media—taxi drivers, grocery store clerks and scientists alike could be overheard explaining the difference between smallpox’ eradication and polio’s elimination, discussing mRNA technology and aerosol transmission, and quarrelling about distancing, face masks and vaccine quality, efficacy, immunity, and safety.

The success of both routine immunization and targeted campaigns during outbreaks made global vaccination a priority much earlier for the World Health Organization in their admirable aim of “health for all” worldwide. Experimental vaccines, however, quickly become silver bullets for local, national, and global biological and social entanglements that can be characterized by Singer’s term “syndemic,” where amplification of synergistically increasing social and biological harms and worsening health outcomes inequitably prey on the most vulnerable (Barrios et al. 2024; Singer 2009; Wallace et al. 2016). Speculations arise surrounding causation, transmission, and herd immunity at the boundaries of power, poverty, and racialized bodies. The COVID-19 pandemic reminded a world that had claimed triumph over infectious diseases that the term “vaccine” has historical, semantic, and geopolitical depth reproducing zones of political influence (Guilbaud and Sansonetti 2015; Moulin 1996). So too, with the billions of dollars invested in different biologic platforms, new vaccines and biotherapeutics for cancers and countless other infections, including HIV, are now racing along an adapted and agile regulatory development pipeline of innovative and highly commercializable biotechnologies at an unprecedented pace.

Some anthropologists have turned their attention to behavioural-psychological dimensions of vaccine uptake to address vaccine hesitancy and anti-vaccine movements (Larson 2020). We must remember, though, that there has been a long history of vaccine dissenters since the veterinarian Edward Jenner transformed the practice of variolation into a smallpox vaccine, having “discovered” the formidable principle of vaccination in the late eighteenth century that enabled Louis Pasteur and others to develop it into an elaborate technique for preventive medicine (Bailey 1996).

The acceptance of vaccines has been a charged body politic worldwide since their inception, but across colonial and postcolonial African states, they are deeply entangled with the politics of body extraction, suspicion, distrust and anxieties that have been described by historians, anthropologists and political scientists in multiple studies (for example, Fairhead and Leach 2012; James and Lees 2022; Lupton 2019; Tilley 2011). The failure of many vaccine campaigns in Africa has historically been explained as a colonial problem, where vaccination

underlines early administrative concerns for iatrogenic risk and the failure of colonial medicine to implement safe, effective practices and public trust (Lachenal 2014; Schneider 2009). Popular contestations in African vaccine campaigns for polio, for example, need to be carefully examined from the perspective of healthcare services, global health agendas, political and religious contexts and the political messages that underpin rumours (Masquelier 2012; Obadare 2005; Yahya 2006). These studies show that biotechnologies cannot be studied alone; researchers must understand and take into account the social, economic and environmental relations that bring meaning to the people that the vaccine is intended to help.

As embodied technoscientific objects navigating changing local, regional, and global geopolitical boundaries, vaccines continue to ignite controversies, disputes, and sometimes legitimate conspiracy theories surrounding their safety, their effectiveness, and their relevance to individual, community, national, and planetary health. The tropes of power, influence, and interest that circumnavigate knowledge, behaviour and attitudes remain central to understanding new layers of scientific development, vaccine hesitancy and their adoption. Yet, with some exceptions, scientists seldom engaged with the anthropological-political-economic dimensions of vaccine technocracy underneath health inequalities. In the context of COVID-19, António Guterres, United Nations Secretary-General, qualifies this neglect as a “moral failure.” The insidious hegemonic role of the pharmaceutical/vaccine industry in research and development, its reach into universities, and the distribution, delivery and uptake of necessary vaccines boilerplates this disregard for the moral basis of profit when disease is viewed as a market opportunity. Driven by profit-minded shareholders and captured politicians, the opportunities and demands of private industry and high-income countries trump the needs of low- and emerging-income countries. With the rise of philanthrocapitalism driven by private foundations and donors and other multilateral organizations with significant influence on the southern health agenda, ethnographers are now shining a new light on the political economy of vaccines in contemporary Africa (Birn 2005, 2014; Erikson 2015; Graham 2016, 2019; McGoey 2015).

In January 2023, the contributors to this special edition were invited to Paris by Janice Graham and Oumy Thiongane for a workshop funded by the Canadian Institutes of Health Research, and graciously hosted by Tamara Giles-Vernick at the Institute Pasteur. Having previously shared early drafts of their papers, they turned their critical medical anthropological gaze on the global vaccine logics

that inspired and affected their ethnographic inquiries about vaccines and vaccination. This volume has much original work to bring to the epistemological and methodological dimensions of this conceptual analysis. In this collection, our contributors focus on neoliberal platforms and political economies of vaccine reproduction in light of post-colonial sensibilities of inequity and social justice. They attend to agile regulatory adaptations in scientific, clinical, community and individual ethical, behavioural, and attitudinal aspects of global vaccine development, manufacturing, and distribution. Against a backdrop of vaccines that were incorporated into routine immunization, World Health Organization's Expanded Program on Immunization (EPI) and more recently, the Global Vaccine Blueprint strategies for newborns and children, the vaccines developed in the late twentieth and early twenty-first century, that use conjugate and genetically engineered technologies and reverse vaccinology, have undergone major scientific, technological, pharmaceutical, political, economic, and ontological transformations. These new technologies that have entered the market reorient the logic and practices of the governing institutions (that is, academic, industry, health, private foundations, charities, governments, and NGOs). While generating new knowledge (Craddock 2007), however, the transformations, processes, practices, and types of knowledge so produced have been largely neglected by social scientists. While anthropologists have been long engaging at sites of vaccine development and in unravelling the barriers to ready adoption of these technologies, we are now turning our ethnographic sights on incongruities between North and South, on the practices and processes of political, human and non-human actors, private and public property rights (and hollowed out responsibilities after forty years of neoliberal market values), and the structures that divide the rich and poor, the healthy and unhealthy.

Public trust in science has remained an ephemeral object not to be taken for granted (Baines and Elliott 2020; Lupton 2019; Ryan et al. 2019). For example, COVID-19 vaccine manufacturers have been subject to numerous challenges that they held back critical scientific evidence that compromised the efficacy of their products and their safety in humans (Tanveer et al. 2021). Indeed, there is a rich history of pharmaceutical and vaccine manufacturers who, do not always uphold the principles of good science in clinical trials and beyond, and government regulators have been seen too often to have too cozy a relationship with them (Lexchin 2023). Vaccines developed during the early twenty-first century have not always provided the same levels of protection or longevity (immunogenicity) as the previous ones, as the standards for regulatory approval

have been changing (Eren Vural et al. 2021; Graham 2005; Herder et al. 2019). Unlike the infant and child immunizations that provided lifetime protection against diseases that killed indiscriminately in previous times, many newer vaccines have proven less effective, less reliable, are found to require boosters, sometimes seasonally (as with Influenza vaccines), or even more often (as was the case with the COVID-19 vaccines introduced with haste in early 2021). The COVID-19 pandemic saw unprecedented global public-private collaborations work to rid the world of a threatening and real virus. Nation states needed to show their capacity and capability to respond to a global crisis, and vaccines (their development, production, and procurement) became the holy grail by which a country's mettle would be tested. World expectations of equitable distribution of these vaccines, however, failed miserably in the rampage for corporate profits by the vaccine industry.

In this special issue, the medical anthropologists we invited engaged in ethnographic fieldwork in Africa to explore the processes and practices of vaccine development as a technology inscribed in technocratic global health assemblages. Together, their contributions investigate the evolution of vaccine logics through seven illuminating accounts at the interstices of global health.

Contributing to the collective knowledge of and first-hand experience with the most recent global pandemic, anthropologists Gassim Sylla and Frédéric Le Marcis explore Guinean resistance to the COVID-19 vaccines in light of the disconnect between global vaccine logics and local context. Although scholars called for attention to local needs during the pandemic (for example, Boum et al. 2021), Sylla and Le Marcis describe a global health diktat that held little relevance for Guineans. The pragmatics of multilateral and bilateral cooperation, for example, in Sino-Guinean and Russian-Guinean partnerships, were rooted in the politics of supply chains for essential equipment and services. Global vaccination policies are not fit for purpose when they ignore situated biologies, local experiences of the disease, perceptions of risk, transmission patterns, and strategies of circulation in Guinea and beyond.

The contributions by Lees and colleagues and by Thiongane and colleagues consider the significance of communities, their logics, and local negotiations in the adoption of experimental vaccine technologies in the context of clinical trials. Going well beyond individual rationales and communication strategies for explanations of vaccine acceptability in a series of six ethnographic accounts, Shelley Lees, Alex Bowmer, Samantha Vanderslott, Lys Alcayna-Stevens, Mark Marchant and Luisa Enria analyze the political and community logics

pertaining to Ebola, Zika, Measles, Rubella, Rift Valley Fever, and COVID-19 vaccines among a diverse range of actors in Brazil, Democratic Republic of the Congo (DRC), India, Sierra Leone, Tanzania, and Uganda. They show the complex and multi-faceted historical, cultural, environmental, and political contexts that shape vaccine hesitancy and confidence.

The rapid development of an Ebola vaccine during the West African Ebola epidemic of 2013 to 2016, after years of languishing in laboratories, underscores the role of the market (as a direct outlet and a means of financing clinical research after an epidemic) in advancing global health. Vaccines are evident as industrial objects, part of the register of scientific utopias, the grammar of preparedness, and a tool for managing pandemic risk (Lakoff 2015). Beyond the biomedical clinical trial protocol, however, lurk real patients/subjects involved in trade-offs between the needs of research and treatment and poverty. Thiongane, Bamba, Sawadogo, David, Mathiot and Graham explore the socio-technical tensions occurring within an Ebola vaccine clinical trial conducted after the outbreak in a region of Africa where Ebola posed little immediate threat. They probe the politics of inclusion and exclusion of African HIV patient communities within a rhetoric of international clinical trial collaboration, showing how research actors appropriate and mobilize social, biological, and technical attributes of the vaccine, developing a narrative that fits effectively to their own purpose.

Staying with the important role of narrative in global vaccine logics, Leonard Heyerdahl asks a burning question related to the storytelling behind successful vaccines: what crafting took place to make a nineteenth-century tool that was largely abandoned in the twentieth century into a cornerstone to cholera control in the twenty-first century. How did the oral cholera vaccine become a global health success story? Analyzing the epistemic, moral, and industrial reconfigurations that accompanied the introduction of the oral cholera vaccine in the South, Heyerdahl provides a fascinating bifurcation of global vaccination policies and public health and the crafting of a vaccine's success.

We see a pattern across the studies contained in this volume—the crafting of a vaccine's success is situated not only in the technical features of the vaccine but in situated biologies, time, space, and political economy. Reflecting on the differences between COVID-19 vaccines that were developed in record time and vaccines that have been long in development, in particular the malaria vaccines, Janice Graham and Koen Peeters Grietens take the concept of “success” one step further, questioning what they see as a growing trend towards licensing

“leaky vaccines” known to have waning immunogenicity and suboptimal efficacy. The expressed need by clinical scientists and national governments for early implementation of a malaria vaccine opened a crack into previously accepted regulatory principles about the optimal level of protection needed for populations, and what other factors, beyond the vaccine, contribute to that. The authors propose that a global industry and regulatory push for progressive, agile licensing has served to provide opportunities to market leaky vaccines before their development may be seen to be complete. They describe how this regulatory loosening deserves serious attention from independent researchers and regulators to continue to follow the safety and effectiveness of less effective leaky vaccines and how this may be influencing a growing vaccine hesitancy in populations worldwide.

Pierre Marie David considers the decades-old search for a vaccine for AIDS. Describing the failure of the international collaboration initiated by the WHO in the 1990s through two vaccine trials, including one conducted in the Central African Republic, David analyzes the depoliticization in vaccine research at the global level just as an AIDS vaccine is approaching approval. Consistent with the findings of many of the contributors to this volume, David concurs with others in this volume that the world will soon have vaccines for all sorts of diseases, but will they be effective and safe vaccines equitably accessible and available for all?

Finally, we end this collection with a tribute by Oumy Thiongane to our dear friend and researcher, who passed away on December 15th, 2019, from fulminant skeletal tuberculosis. Sekou Kouyaté was the epitome of African research assistants who fight and wear themselves out to advance scientific knowledge and understanding while supporting their extended families. This special issue, revealing critical insights into contemporary global vaccine policy, represents the first comprehensive collection of articles on the anthropology of vaccines in African contexts. We are entirely grateful and our work is forever beholden to researchers like Sekou, who spend their lives in the field.

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