

Partial Publics

The Political Promise of Traditional Medicine in Africa

by Stacey A. Langwick

This essay examines how the publics of public health and those of public domain are reshaping one another in efforts to commercialize and manage modern traditional medicine in Tanzanian universities, government laboratories, nongovernmental clinics, and ministry offices. I argue that struggles over the practices that constitute the public to which contemporary traditional medicine will appeal are also struggles over who is obliged to respond to pain and debility, to mediate the consequences of misfortune, and to take responsibility for the inequalities that shape health and well-being. Postindependence and socialist dreams had cast traditional medicine as the basis of an indigenous pharmaceutical industry and promised freedom from multinational pharmaceutical companies and global capitalism more broadly. By generating new publics, current scientific efforts to exploit the therapeutic and commercial value of therapeutic plants are experimenting with political and social philosophies, with biological efficacy, and with new forms of wealth and property. The uneven, contradictory, and partial projections of the public at play in these efforts are raising thorny questions about the forms of sovereignty that are possible within the neoliberal restructuring.

The alignments between medicine, nation, and citizen that forged the public health regimes of newly independent African states in the 1960s and 1970s have changed over the past 2 decades. Structural adjustment programs designed in the 1980s by the IMF and the World Bank to “liberalize” African economies—including the reduction of national health care budgets, the institution of fees for service (or “cost-sharing”) in public clinics, and the establishment of private practices—eroded earlier investments in national health care systems and in the national publics that they imagined. The newest generation of IMF/World Bank policies that shape conditions attached to initiatives in Africa by the international financial organizations continue to cut investments in the social sector in favor of creating what is referred to as “a good business climate.” This environment supports recent trends shifting international aid toward temporally bounded nongovernmental projects and away from long-term commitments to strengthening ministries of health. These challenges are compounded by problems of access to pharmaceuticals as a consequence of the consolidation of multinational pharmaceutical interests through globally enforced intellectual property laws. In aggregate, these trends are forging new relations among governments, citizens, and corporate interests—relations that figure the health of the public through the market and transform the landscape in which Africans address illness, care for

bodies, and seek assistance for the misfortunes and debilities of their loved ones. Amid these dynamics, traditional medicine is emerging regionally as a compelling promise.¹ Plant, animal, and mineral substances offer not only therapeutic potential but also political potential as they recast thorny questions about the publics to which medicine and medical knowledge might be held accountable and about the sorts of sovereignty that might be possible in Africa today.

This essay examines the current excitement around traditional medicine in Africa through a variety of scientific and clinical initiatives in Tanzania designed to realize the value of therapeutic plants. That which is referred to as “traditional medicine” in Africa is a product of encounter, defined through colonization, missionization, postcolonial nationalisms, and international development. It has emerged as an object of knowledge, law, and policy through scientific investigation and bureaucratic management. These processes have systematically disaggregated healers and their medicines and have separated healers from institutions of social and political power (Fiereman 1985; Sanders 2008). The making of a traditional medicine focused on the efficacy of plant material, therefore, has been deeply political.

Perhaps this point should not be surprising, for healing in Africa has always been political and often intimately entwined with the mechanics of sovereignty. As archaeological evidence and careful research in historical linguistics has shown, pre-

Stacey A. Langwick is Associate Professor in the Department of Anthropology of Cornell University (261 McGraw Hall, Cornell University, Ithaca, New York 14853, USA [sal54@cornell.edu]). This paper was submitted 13 VIII 12, accepted 29 VIII 14, and electronically published 15 VII 15.

1. A renewed interest in traditional medicine in response to inadequate options for biomedical care may also be a broader phenomenon, as it can be seen in other contexts where a neoliberal development agenda shapes the pressures on health care (see Brotherton 2012, chap. 2).

colonial kings or chiefs were themselves healers or maintained powerful healers in their courts. Healing practices were intimately entangled either with the ways that leaders exercised authority or with collective efforts to circumscribe the power of a sovereign (Feierman and Janzen 1992; Janzen 1992; Kodesh 2010; Schoenbrun 2006; Tantalala 1989). The link between traditional medicine and precolonial authority posed a challenge to the colonial state, the best example of which may be the Maji Maji Rebellion. Maji Maji, the largest coordinated resistance to colonial rule in Tanganyika, relied on the circulation of medicinal “water” to mobilize collective action.² Fear of a repetition of this rebellion haunted later colonial missions and supported the development of witchcraft laws in Anglophone Africa. In the process of defining practices that used medicines to motivate collective action against colonial administrations as witchcraft, these laws effectively redefined healing. The simultaneous interest of colonial scientists in “native medicines” that address the illness of physical bodies furthered this redefinition of healing. Investigations into native medicines established an institutional basis for conceiving of the value of therapeutic plants as separate from the healers using them and conceiving of herbalism as a kind of knowledge/practice that is distinct from other therapies (spiritual, kinship, environmental, community efforts to address evil, etc.).³

Contemporary traditional medicine grows out of this legacy. The process of crafting the 2002 Alternative and Traditional Medicine Act in Tanzania reinforced the focus of the modern nation-state on the internal efficacy of therapeutic plants and, to a lesser degree, on animal and mineral substances. One scientist in the Tanzanian National Institute of Medical Research (NIMR) recalls that the term “*materia medica*” emerged as central to the government’s conception of traditional medicine during the stakeholder workshops held to develop policies and programs to implement the mandates in this act.⁴ Any conceptual clarity policy makers strive for through a focus on the pharmacological qualities of plants in official protections and interventions is destabilized in practice, however. As many healers and patients with whom I have worked confess, therapeutic power is “in the healer’s hands.” Healers’ bodies are the sites where plants, patients, environmental elements, ancestors, and a range of entities that rule invisible realms come together. The capacity of a plant to be medicine emerges in this coming together (Geissler and Prince 2009; Langwick 2011*b*). In healing practices, the therapeutic power of a plant is seen not as locked up in its active ingredients but as a product of specific temporal and spatial relations. What, then, are the stakes in the most recent calls to realize the value of plant-based medicines?

2. Indeed, healing and healers have played a role in other resistance movements throughout East and southern Africa (see, e.g., Lan 1985).

3. For a longer discussion, see Langwick (2011*a*).

4. Interview with John Ogondiek, research scientist, Tanzanian NIMR, May 2013.

In this essay, I approach traditional medicine through its scientific, clinical, and bureaucratic engagements. I draw attention, in particular, to the ways that government research institutes, university scholars, and NGOs are taking up traditional medicine in Tanzania. In this process, I highlight differences in the publics imagined during (and through) the processes that give rise to modern traditional medicines. By situating publics as a central object of analysis, I explore as inextricably intertwined political hopes, scientific and legal technologies, medical institutional structures, commercial desires, and the social space of illness and treatment.

Hayden (2003), in her work on bioprospecting in Mexico, first and most extensively raised the complicated issue of the publics of the ethnosciences and the strategic construction of publicness by scientists to justify their gathering and use of plant materials without ties to communities or healers. The public she described stood in contrast not to the private but to the communal, the indigenous, and the community. I have been inspired by Hayden’s work. While Africa after the millennium is a product of different tensions and pressures than those that shaped Latin America in the 1990s, her insistence that what is animated or reified as public is shifting, flexible, and with consequence remains critical (see also Prince and Marshland 2013).

I argue here that investments in traditional medicine in Africa are bringing together two different notions or uses of the public—those of public health and of public domain. These play out in a variety of efforts. Plant, animal, and mineral substances used by healers to address a range of physical complaints are gathered as raw material for pharmacological investigations. Traditional healers are called on and trained as one possible solution to the “manpower” shortage in the African health care sector. Therapeutic plants, both indigenous and those that can be successfully farmed, are considered as a natural resource that might be exploited for export before or after domestic processing into herbal powders, teas, and tinctures. Traditional medicines are substances that might sustain bodies with HIV/AIDS, prolonging life independent of antiretroviral drugs (ARVs), at least for periods. Assessing the coexistence of—and at times the connection between—these forms of the public reveals some of the potential and dangers of traditional medicine; that is, it enables an assessment of the implications of a modern traditional medicine called into being through the intersecting dreams of international science, postcolonial nationalism, African health care systems, and people with afflictions, pain, and debility.

The Nature of Publics

Tied to concepts of democracy and democratic speech, notions of the public have raised important debates in the humanities and interpretive social sciences. The specter of Habermas and his notion of the “public sphere” as a critical feature of the modern—having arisen through the destruction

of “representational” feudal politics (the iconic moment of which remains the French Revolution)—looms large in these interdisciplinary conversations. For Habermas, the public sphere is a space of rational debate best described through a set of ideal speech acts. While he argues that the public sphere is disappearing because of capitalism, mass consumerism, and the welfare state, it remains for him a cornerstone of democratic politics. Feminists, Marxists, and other “discontents,” however, have reminded us that such a public sphere never existed insofar as historically grounded publics in actual democracies have always been defined by their exclusions—of women, of slaves, of the proletariat, and, importantly, of all those people and relations that defined the “private” (e.g., Fraser 2008; Hardt and Negri 2001). Warner (2002), in his provocative essay “Publics and Counterpublics,” takes a different tact. He suggests that the key to understanding the public as a distinctly modern form of power lies less in identifying any particular constitutive exclusion and more in recognizing the public as a social shape created by the reflexive circulation of discourse. The public is not a space for rational, focused conversation or debate; rather, it is “a space of address to indefinite others”—to strangers. He tells us that “even counterpublics [such as feminists and Marxists] that challenge modernity’s social hierarchy of faculties do so by projecting the space of discursive circulation among strangers as a social entity” (87).

The public, as Warner articulates it, is not a specific or identifiable group of people; it does not map neatly on a particular population. Rather, it is an ever-growing and only partially imaginable set of relations, which is even more potent given the rise of technologies that can reproduce and mobilize discourses in different contexts relatively quickly. To take up this theoretical innovation ethnographically draws attention to the actions central to both conceiving and sustaining a public—that is, to “address.” Following Warner, a public is a space that both emerges from and holds out future possibilities for efforts to speak about, manipulate, embody, react to, alter, manage, contend with, grapple with, play with, draw on, reject, undermine, or otherwise engage a given object of discourse. To address is to act toward (but not necessarily succeed in) being interpolated into discourse. Address invites discursive circulation. Ethnographic attention to address enables an analytic examination of why particular publics take on the shape they do rather than another. It also insists on analytically maintaining their dynamism, the contingencies of their material and affective inspiration, and their nonpartisan and deeply partial character.

An interesting example though which to think about what it means to conceive of the public as a “space of address to indefinite others” is a recent article by Africa Check, a South African nonprofit organization that promotes accuracy in public debate through investigative journalistic fact-checking. Africa Check took up the following question: Do 80% of South Africans regularly consult traditional healers (Wilkinson 2013)? On July 31, 2013, it published an article that argues that this

widely cited claim rests on a series of self-referential WHO publications tracing back to a 1983 WHO publication titled “Traditional Medicine and Health Care Coverage” by Robert Bannerman (Bannerman, Burton, and Wen-Chieh 1983), a Ghanaian doctor who served as a WHO regional advisor and who, at a formative moment, managed the WHO Traditional Medicine Program. Africa Check argues that the figure of 80% is an unsubstantiated and exaggerated claim. The primary import of this correction does not rest on any recalculation of the number of people using traditional medicine. Following Warner, the public is not, and never was, the (contested) 80% of Africans said to use traditional medicine. Therefore, in the face of Africa Check’s argument, traditional medicine’s public does not become the 0.1% of South Africans that Stats SA claims in the 2011 General Household Survey would consult a traditional healer for an “illness.”⁵ Rather, the public is the space established by the repetition and circulation of the WHO’s claim, and now Africa Check’s correction and the debate that it is spawning. The claim that 80% of Africans use traditional medicine or that 80% of Africans depend on traditional medicine for their primary health care has been mobilized in a range of projects, from the incorporation of traditional healers into hospital treatment regimes to the training of healers as outreach workers, the development of model laws concerning traditional medicine by the African Union, the placement of herbal medicines on African nations’ lists of essential medicines, the development of national traditional medicine policies, legal frameworks, codes of ethics, the establishment of formal offices of traditional medicine in ministries of health, and the building of dedicated laboratories. It is also a claim circulated in international news stories to characterize African life or to explain problematic health development statistics, such as high maternal mortality rates. Furthermore, this claim justifies research and shapes nongovernmental initiatives—from efforts to eliminate traditional medicine use, to efforts to recognize and value traditional medicine use, to efforts to “bridge the gap” between traditional and modern medicine use. The public, then, is the space created by the circulation of this claim in all the unpredictable, unmanageable, and not completely knowable ways that this circulation precedes.

Insofar as fact-checking organizations such as Africa Check exist to counter the creation of a misled or uninformed public, they explicitly articulate the ways in which publics in practice are inspired by affective ties, not defined by democratic, rational debate. This essay focuses less on mobilizing evidence that would

5. As traditional medicine’s political profile grows more prominent, its importance to public health is hotly debated. Some Tanzanian scholars and clinicians I have worked with argue that traditional medicine use is increasing in the face of economic pressures that people and households have felt as a result of neoliberal economic policies. Regardless of whether traditional medicine use has increased, decreased, or remained the same over the past century, it remains a significant practice, enabling the articulation of distinctive notions of the body and bodily threats as well as the possibilities for intervening in them.

expose the irrational basis of the public, however, and more on exploring how a notion of the public as a space of address opens up the possibility of recognizing translations, unintended up-takes, misunderstandings, miscommunication, diversions, and distortions as more than errors.⁶ In fact, unpredictable, unintended, or inaccurate readings become uniquely generative sites to think through the public as a modern form of power, that is, to think through the subtle ways that exclusions and forms of marginalization are both established and challenged in contemporary Africa and beyond.

My specific argument is rooted in traditional medicine's postcolonial history in Tanzania. After independence, Tanzania's socialist government instituted a radical policy to build a dispensary within 10 km of every person in the country. While this policy grew controversial in its implementation, it remains one of the most ambitious efforts in Africa to extend a newly independent state through health care. The controversy in some sense sprung from the fact that the postcolonial state sought legitimacy through its obligation to a broad citizenry embodied in the extension of social services. Therefore, when dispensaries remained far from some, and when those dispensaries that were built sat devoid of medicines and sufficiently trained staff, the failure was measured not only in terms of access to care but also in the legitimacy of the national government. In 1991, the last socialist minister of health stepped down, and the full extent of the structural adjustment programs that had been agreed to 6 years earlier were put in place in the health sector. In particular, the introduction of cost-sharing measures in government hospitals and the emergence of private clinics chipped away at the popular notion built after independence through policies of Ujamaa, or African socialism, that there was a (national) public for whose health the state was responsible. In the southeast, where I worked from 1998 to 2008, it is not unusual for the medicines in the district hospitals to run out halfway through each month. Even the relatively large tertiary hospital in the wealthier north, where my current work is located, struggles to keep adequate supplies of basic drugs on hand. This current lack of medicine remains an index of development, but it is no longer a significant index of a legitimate government. Instead, those who can afford more or better services have the "right" to seek out private care. The changes wrought by structural adjustment have turned the health care system from the ground for the building of a national public into a tool of class formation. In efforts to both exploit and cut across the new resulting relations, some government officials, scientists, and NGOs are reimagining traditional medicine. In these efforts, traditional medicine is not only part of a public assemblage, it is also calling a new version (or versions) of the public into being.

6. I am indebted to Rosiland Shaw, who, during Dalhem Conference conversations in 2011, brought the possibility of such unintended readings to my attention.

Below, I trace the uneven, contradictory, and changing—that is, partial—projections of the public at play in the research and commercial development of contemporary traditional medicine in Tanzania. This method highlights debates over accountabilities and liabilities entangled in different forms of address. The public in public health emerges as nation and as consumer.⁷ Under neoliberal restructuring, both of these notions of the public are often intimately entwined within health initiatives. The public in public domain articulates that which is before or after (or otherwise outside of) property. It references knowledge that cannot be monopolized, but it can be capitalized. All of these projections of the public are a space where sympathies may be mobilized and sentiments can be stirred, a space that inspires and is inspired by publicity.⁸ Tracing these projections elucidates different scales (e.g., geopolitical, technological, juridical, economic, and institutional) at which the public emerges. As a result, the publics of traditional medicine may at times overlap so much that they seem synonymous, and at other times they appear radically different and irreconcilable.

Thinking through how the practices and relations that produce knowledge about traditional medicine evoke particular publics begins to reveal why traditional medicine has emerged in Africa as a provocative site for debates about sovereignty and the form of sovereignty embedded in relations between science and capital. As a modern category of knowledge and practice, traditional medicine holds out the possibility of particular forms of address that are entangled with but do not always fit neatly into modern political or economic relations. As a space of address, traditional medicine is shaped by but not overdetermined by nation or capital. Therefore, struggles over the practices that constitute the public to which modern traditional medicine will appeal are also struggles over who is obliged to respond to pain and debility, to mediate the consequences of misfortune, and to take responsibility for the inequalities that shape health and well-being.

Reclaiming a "Public" for Health Care

The two healers who work at the Faraja Trust's traditional herbal clinic receive their clients at a long wooden table. As they conduct their intake interviews, they sit backed by floor-to-ceiling wooden bookshelves stacked with ground medi-

7. For more in-depth histories of public health and world health, see Porter (1999) and Bashford (2006), respectively.

8. By publicity, I mean the affective efforts to promote traditional medicine among a broad and undetermined populace, such as media coverage linking nationalist or emancipatory hopes with traditional medicine, academic scholarship drawing together basic science and African dreams of self-determination and economic equity, and regional and international efforts to legitimize, celebrate, and/or highlight the potential of traditional medicine. Such publicity accompanies and is deeply entwined with efforts to promote traditional medicine bureaucratically, legally, and scientifically.

cines in neatly tied clear plastic bags. On the other side of the small room, floor-to-ceiling industrial metal shelves hold lines of brightly colored plastic buckets. These are filled with ground medicines, honey, soya flour, and a mixture of soya and corn flour. Bahati⁹ jumps up suddenly in the middle of our initial conversation in 2008. He reaches into a large box in the corner of the office and starts to pull out a range of ARVs—some partly used, others unopened. All of these medicines, he explains, had been turned in by people who decided to discontinue their use of ARVs to use Faraja's traditional medicines.

Faraja Trust was started in 1991 with a program to "rehabilitate" commercial sex workers. From their work with commercial sex workers, Faraja expanded—sequentially to community peer education, orphan support, and finally home-based care for people with AIDS. The traditional herbal clinic emerged within the home-based care center to address the untreated opportunistic infections of their clients at a time when ARVs were not available.

Today, when people who arrive at the Faraja home-based care center test positive for HIV, the staff presents them with two options: joining the herbal clinic or going to the Counseling and Treatment Center (CTC) at the regional hospital across town to get ARVs. The head of the home-based care center described their protocol as follows: "If they are below 200, then they are directed to go to the hospital and advised to start ARVs. If their CD4 count is above 200, especially if it is above 400, then they are given the option of starting traditional medicine." Like the head of the home-based care center, the organization's deputy director stresses that Faraja gives appropriate clients a choice between either traditional medicine or ARVs, but not both. To check one's status at Faraja is Tsh1,000 (approximately US\$0.85), and to become a member of the herbal clinic is Tsh2,000 (approximately US\$1.70). Members then receive all their treatment for free. The healers collect and prepare all the medicines themselves. Together with the home-based care staff, healers monitor their clients. If one loses a lot of weight and/or becomes debilitatingly ill, then he or she is sent to the CTC at the regional hospital for a CD4 test and ARVs.

Many of the Faraja staff revealed that their clients found that ARVs caused them to feel desperately hungry (see also Kalofonos 2010). For people who do not have enough food, who cannot afford to eat multiple times a day, who feel that an increase in the amount they eat takes food directly from their kin, this hunger is not a small inconvenience. The staff confessed, "Some fear this hunger, so even if they have ARVs, they might not take them." These are some of the people who turn their medicines into the herbal clinic and ask to be included in the traditional medicine program. The Faraja traditional herbal clinic also combines traditional medicine with nutritional information. While the flour in the herbal clinic is supposed to be reserved for a program for vulnerable child-

ren, very poor clients are also occasionally given a large cup to take home.

While Faraja has begun a small-scale study of the efficacy of its herbal medicine program, its focus remains on immediate care.¹⁰ At the University of Dar es Salaam, however, a range of professors from the Departments of Botany, Chemistry, and Molecular Biology and Biotechnology specialize in the scientific study of traditional medicines and therapeutic foods. Daniel Kisangau, a Kenyan who recently completed his PhD at the University of Dar es Salaam, drew on all three of these academic departments during his doctoral work.¹¹ His multidisciplinary study exemplifies the research African scientists are undertaking on herbal medicines.

Kisangau describes his research as compelled by a national problem: HIV/AIDS is a devastating disease, and sustainable solutions for the general population are needed. He presents science as a path to socioeconomic development—through the detection and promotion of a treatment that might be easily replicated on a large scale and made available "to all." His goal is to identify cheap ways of addressing opportunistic infections associated with HIV/AIDS. Kisangau justifies his search for solutions to the problem of managing HIV/AIDS in Tanzania within investigations of traditional medicine through the rational for his field site.

When HIV/AIDS came, people had no idea what kind of disease this was. . . . It was new to the community. Somehow since that time when it first came or was first recorded, people must have invented ways to deal with this new animal. They are kind of inventing ways to address HIV. They have to make use of these traditional medicine men. The traditional medicine men have to scratch their heads. Even if they have to try every plant in the forest. So you find over time people should have found ways of managing this. It was just based on that logic that I thought that these medicine men must be reaching knowledge. And of all the areas in Tanzania, the *waganga* [healers] of Bukoba really know medicines.

Like Faraja's efforts, Kisangau's research required collaboration with healers. He imagines commercialization through an ethic of drawing from healers to find broadly affordable

10. With US\$4,000 from TICAH, a Nairobi-based organization funded primarily through the Ford Foundation, Faraja conducted a small clinical observation study in 2006. At the home-based care center, it started to evaluate the effect of using herbs with nutrition to treat opportunistic infections and to boost immunity. Over the course of 9 months, it tested 40 people enrolled in the herbal clinic three times. Every 3 months, white blood cell counts, hemoglobin, and erythrocyte sedimentation rate were screened. Those who went to the CTC also received a CD4 cell count. Norbert, the staff member in charge of the study, concluded that "after using herbs together with nutrition, there was some improvement in most people."

11. His research was funded by a DAAD scholarship facilitated through the Natural Products Network for East and Central Africa.

9. Names of Faraja staff are changed to maintain confidentiality.

medicines for people with HIV. As such, Kisangau's study involves three components: (1) ethnobotanical research (Kisangau et al. 2007), (2) conservation research, and (3) both *in vitro* and *in vivo* laboratory studies. While investing significant time in the laboratory study, Kisangau emphasized that his study was different in that it did not focus solely on bioactivity but also evaluated conservation standards (indeed, the first two chapters of his dissertation concern these extralaboratory issues). His field research, for instance, included investigations into the array of local uses for each tree (firewood, building, and feeding animals as well as medicines) and perceptions that particular species were becoming harder and harder to find.

Both Kisangau's research and Faraja's clinic arise from a concern that biomedicine is not addressing large segments of the population in Tanzania. While part of this concern lies in the limited distribution of ARVs, this does not tell the whole story. Others have argued explicitly that the distribution of ARVs is not a reliable long-term solution to the HIV/AIDS crisis in Africa (A. Mascarenhas and P. P. Mhame, unpublished manuscript). Fears that donors can pull out at any moment qualify such development efforts. Furthermore, as Radi's collection of medicines from the regional hospital's CTC illustrates, not everyone finds the side effects of ARVs manageable. Both Kisangau's and Faraja's work attempt to reclaim the possibility that health care in Tanzania might serve "the public." Neither Kisangau nor the staff at Faraja explicitly call on a moral obligation of a legitimate government to address the acute health care needs of its citizenry. Their work is framed implicitly by the failure of the state.¹² Furthermore, as they position their work, they are attuned to the fact that the public addressed by international public health initiatives is shaped by the market. Insofar as their research seeks to develop products that would enable a broader population to have access to care, they push back against the combined effects of other NGO projects and clinical trials that are reshaping the therapeutic landscape in Africa by creating therapeutic "enclaves."¹³ They work against what Prince (2013) has identified as the "emptying out of the public as an inclusive terrain" (2). When experimenting with herbal medicines, they are also experimenting with ways to

mediate the complicated effects that the free distribution of life-saving drugs has had on efforts within Africa to build an indigenous pharmaceutical industry. As potential solutions to these problem of access and production, Kisangau's and Faraja's efforts raise questions about the sort of development—or to use an older political language, the sort of "self-reliance"—that is possible in neoliberal Tanzania.

Consuming Publics and the Health of the Economy

The commercialization of herbals is not the most immediate or primary objective for Faraja or for Kisangau and his advisors. Faraja measures success not in dollars or in patents but rather in the number of people it serves and the quality of life of the people it helps. Kisangau and his advisors measure success in publications and degrees. One of his advisors confided to me that he would personally like a patent to appear on his curriculum vitae someday. Yet, while impressed by one he saw on an US colleague's CV, his research is not driven by this desire. In fact, when commenting on the passage of the first intellectual property rights policy for the University of Dar es Salaam in 2008, he suggested that the new policy would mean little as "people here [including himself] do not think in those terms." Other actors within the field of traditional medicine, however, do think in such terms.

Among African ministers and other officials, there is a revival of interest in traditional medicine. At a UNESCO/AU Science with Africa conference held in March of 2008, the possibilities of commercializing traditional medicines found advocates in conversations that ranged from seed banks to drug development. In addition, as part of this conference a Swiss company called BrainStore ran a program to generate creative ideas to promote science and technology in Africa. Participants—including ministers of science and technology, AU and UN officials, scientists in key national positions, and NGOs invested in the advancement of science and technology as well as some representatives from industry—submitted more than 5,000 ideas. At the end of the conference, a jovial mayhem characterized the closing session as the Swiss facilitators led participants through an exercise to rank the top 20 ideas. The patenting of indigenous knowledge with a special emphasis on traditional medicine emerged as one of the top three ways of promoting science and technology in Africa.

In the two government bodies investigating traditional medicine in Tanzania—the Traditional Medicine Research Unit in the NIMR and the Institute of Traditional Medicine (ITM) in the Muhimbili University College of Health Sciences—a general focus on the commercialization of traditional medicines has become central to their research agenda.¹⁴ Patents are one of the

12. A great deal of subtle ethnographic work has addressed how Africans are grappling with AIDS and navigating the social, therapeutic, and political spaces it has created (see, e.g., Colvin and Robins 2009; Nguyen 2004, 2010; Peterson 2014; Renyolds Whyte 2014; Richey 2011, 2012).

13. Noelle Sullivan and Claire Wendland organized a provocative panel during the 2010 American Anthropological Association annual meeting in New Orleans titled "Selective Circulation: Transnational NGOs and the Enclaves of Punctuated Development in Africa." Each of the papers drew on James Ferguson's (2006) notion of "enclaves" of productive work within a generally unusable African environment and thought through the increasingly uneven and privatized health care services in Africa as national programs are giving way to special NGO projects and clinical trials.

14. In 2008, Dr. Moshi, then head of the ITM in Muhimbili, was the sole holder of a patent for a traditional medicine in Tanzania. According

more complicated technologies involved in the commercialization of traditional medicine. For this reason, while interested in the various mechanisms that articulate intellectual property rights (patents, trademarks, copyrights, etc.), these organizations simultaneously focus on the production of products that might enable Tanzania to have greater influence within the “global herbal market.” Hamis Malebo, the head of the NIMR unit, is visibly irked when he sees that 16 hibiscus tea bags made elsewhere are being sold in the United States for close to US\$4 a box under the Yogi Tea label. He also wonders out loud why Tanzania imports various body lotions made with aloe. “Why is such a product not made here and even exported?” he asks. The Traditional Medicine Research Unit, as he envisions it, should promote such entrepreneurial ventures.

Although Malebo holds a PhD in chemistry—completed in 2009 while he was leading the NIMR research unit—he claims that the influence of his first degree in education is responsible for his “very different perspective than many people.” Formally, the three primary spheres of work in the NIMR’s Traditional Medicine Research Unit are validation (determining toxicity and efficacy), photochemistry (identifying the active ingredient, including laboratory work, animal studies, and clinical trials), and proof of concept (articulating the feasibility of developing a particular therapy). Malebo confessed that his greatest interest and his goals for the unit under his leadership revolve around the commercialization of herbal products. During the 2008 launching of the CNIS-NIMR laboratory in Arusha, Malebo gave a talk on the sustainable development of traditional medicine in which he challenged his colleagues to break into the global herbal market, which he cited as a US\$60 billion industry. Later that month, when he gave me a private showing of this presentation, Malebo estimated that Tanzania’s share of this market now is about US\$10,000. For him, the “sustainable development” of traditional medicines means the agricultural development of the plant products and schemes for “value addition.” As we brainstormed on various forms of collaboration, he elaborated his vision, in which “communities produce raw materials, then they send them to centers to be produced.” The center that Malebo had in mind was the new NIMR laboratory being built at that time in Dar es Salaam (known by the name of the neighborhood in which it is located, Mabibo). One of the NIMR unit’s goals under his leadership is to stimulate the “conversion of medicinal plants into cash crops.” Through a planting-up and trickle-down theory, he reasons that medicinal cash crops will “help the poor” and “enable profits to go back to the community.”

While healers figure in Malebo’s rhetoric at times, when I ask directly about the ways in which the NIMR collaborates with healers, he pointed only to a folder of notes taken by staff

when healers have dropped by to request help investigating their medicines or to find out more about the work of the unit. In fact, Malebo argues passionately that “a lot of information has already been disclosed, and it is in the public domain. . . . A great deal of ethnobotanical research has already been done. No more is needed. Rather, what is needed is to commercialize the products that are already known.”

This methodological argument bypasses healers and complicates his claim that the “whole philosophy” is designed to get money back to “healers” and to “the community” as quickly as possible. Understanding his approach requires assessing both the nature of the group of “healers” he is imagining would participate in such ventures and how the communities he refers to are delineated. It is in these details that we can begin to account for the particularities of the public being constituted through the government’s efforts to develop traditional medicine.

Indeed, in 2013, when the Mabibo laboratory was up and running and Malebo had successfully gathered a team of active young chemists under him, his lab still had not chosen to develop substantive relations with healers. Rather, as Malebo began to concretely explore creating intellectual property rights for their products, he was considering how benefit-sharing agreements might be structured with a farmers’ cooperative in the Usambara Mountains from which he sources the material for a particular line of therapeutic products: citronella candles, bug repellent, and so on.¹⁵

Malebo’s engagement with healers tends to be limited to his skillful use of popular examples in justifying the commercial potential of traditional medicine. He is particularly invigorated by the story of one Tanzanian healer known as Ngetwa, who is selling a medicine “for many diseases” called Ngetwa 3. This concoction is now being sold in the Sudan, the Democratic Republic of the Congo, Kenya, Zambia, and Malawi as well as Tanzania. Malebo exclaimed to me, “I even saw one package in Switzerland. And I was very excited!” A picture of Ngetwa 3 has earned a place in the photo gallery of the Science Museum in South Kensington, London (fig. 1). This rather exceptional product serves as the basis of the company Ngetwa Traditional Medicine, which is formally

15. His turn to the farmers’ cooperative might be best understood in contrast to the collaborative relations of Ngongongare Research Station, a more recent NIMR facility dedicated to traditional medicine. Ngongongare was originally developed as part of a project by an Italian NGO interested in phytochemical investigations of traditional medicines in northern Tanzania. This organization initiated close relationships with five healers. The two Tanzanian scientists who have taken over the running of this research station since it was inherited by the NIMR in 2008 have been committed to maintaining and expanding these relationships. Unfortunately, changes in Tanzanian policy around the registration of healers has made their collaboration legally precarious and stalled their work. As a result, Malebo’s Mabibo laboratory and his method of bypassing healers look more efficient.

to Akida Khea at the Tanzania Food and Drug Authority (TFDA), no indigenous herbal product had yet been registered as a food supplement or cosmetic, although the TFDA is increasingly challenged by an influx of herbal products from abroad (personal communication, May 29, 2008).



Figure 1. Ngetwa 3. Photo from the Science Museum in South Kensington, London. A color version of this figure is available online.

constituted as a member of the Small Industries Development Organization in Tanzania. Malebo describes the success of Ngetwa 3 with reference to its visibility—wide commercial circulation—without commenting on its therapeutic efficacy.

In my conversations with Malebo more broadly, therapeutic efficacy emerged as one (possible) feature of a commercial product and an assurance of marketability. However, the search for commercializability, not efficacy, compelled his research agenda. He identified what he called the three pillars of future research for the Traditional Medicine Research Unit: (1) inventory of commercializable products, (2) operations research (who is using these commercializable products?), and (3) identification of partners.

His goal is to use the Mabibo laboratory and its small production facilities to produce prototype products that have high “potential for clinical assimilation.” Particular ways of articulating efficacy become important insofar as they are part of identifying or facilitating this “potential.” In 2008, the first product he imagined producing was an herbal that ad-

dressed diabetes. “Because,” he reasons, “this is needed both in Tanzania and out, and people will pay handsomely for it.” By 2013, the Mabibo laboratory was developing therapeutic products to address *kisukari* (Kiswahili for “sugar disease,” diabetes) as well as prostate cancer, malaria, and other ailments. The community in his vision seems to be three relatively elite groups—cash crop farmers, producers, and high-end consumers—held together as a working assemblage by a particular medicine or set of medicines. The health that is most central to Malebo’s vision is that of the Tanzanian economy.

Malebo draws attention most directly to the importance of circulation. This is the work of a visionary, work that requires speculation. Revenues are assumed to follow widely circulating products. There is no attempt to calculate potential revenues. Indeed, the laboratory imagines itself as a product incubator, not as a factory. It is in this experimental role that the government’s Mabibo lab begins to reveal how crafting a particular public is as important an outcome of its work as any particular medicine is (whether individual scientists are conscious of it or not).

Malebo illustrates a shift from ideas of public-as-citizen (articulated by both the Faraja clinic and Kisangau) to those of public-as-consumer. His laboratory articulates a global public that is interested in, knows about, and consumes herbal teas, lotions, and bug repellents. The target market may now be Tanzania or East Africa, but in this experimental product incubator the target market is less important than the more vague, more indefinite international arena in which traditional medicine may be successfully established as a valuable asset, a natural resource. The Traditional Medicine Research Unit at the NIMR is both a scientific and a political entity. Its goal is to change the shape of the public projected by traditional medicine to include the national space of Tanzania (and, perhaps more broadly, the regional space of East Africa).

Even before the NIMR produced herbal remedies, the ITM in Muhimbili, Tanzania’s leading research hospital, did. The institute, established in 1976, started selling herbal medicines from a small office on the ground floor in the early 2000s. In 2008, as Kisangau conducted the *in vivo* experiments on the Bukoba medicines in one corner of the laboratory and others were testing anticonvulsants in another part of the lab, it was not unusual to see Sister Mariamu Masila in her blue-and-white nursing uniform standing at the center table measuring out bags of dried hibiscus flowers. Hibiscus is both sold on its own and used in one of the six herbal medicines the institute packages and sells. Most of the patients who come to buy these medicines from Sister Masila were part of the 2002–2005 study of AIDS medicines. By 2013, Kisangau had graduated and taken a faculty position in a Kenyan university, but Sister Masila and others continued to make these medicines. The customer base may have expanded a bit, but the core of those who purchase these medicines are still from the original study. Dr. Kayombo, a member of this earlier research team and the only social scientist at the institute, confides that he and his colleagues had originally imagined that these medicines would

be prescribed by their physician colleagues in the hospital; however, “we found that this was difficult.” So they began selling the medicines directly out of the institute.¹⁶

While two of the six medicines for sale emerged from the institute’s work with healers, others were either “derived from the literature” or are otherwise “exotic.” At least one of these herbal products, known as *pumu*,¹⁷ a treatment for asthma, came to the institute through the Danish International Development Agency. Indigenous to Romania and transplanted in Arusha and Lushoto, two of Tanzania’s cooler climes, the active ingredient in this herbal sits at the forefront of efforts to incorporate global traditions into development innovations. My interest here is not in questions about the authenticity of the institute’s medicines but rather in their status—with Malebo’s products—as a prototype for herbal medicine as business and as development strategy. This model casts therapeutic herbs as commodities and casts success not in terms of people treated but in terms of units sold. The public imagined is a population of (potential) consumers.

Countering Publics

I see two broad articulations of traditional medicine as it is currently being taken up by NGOs, university scholars, and government research institutes. In the first, traditional medicine offers the possibility of holding contemporary regimes of care accountable to a public without relying on the will of the state. They invoke a public that is broader than the one currently served by the increasingly privatized health care services available in Tanzania. NGOs utilize traditional medicines as an aspect of their programming to address a constituency unable or unwilling to undergo biomedical treatments. Researchers at medical schools and universities investigate traditional medicines as cheaper, more readily available treatments for diseases that plague the poor. In so doing, they push back against the neoliberal trend redefining the public through consumption. The traditional medicines articulated in the first two cases (Kisangau and Faraja) hold biomedicine accountable to the health of all in Tanzania, even as older notions of a public fall in the face of an economic restructuring that challenges the government’s ability—and ultimately its responsibility—to care for its citizenry.

In the second articulation of contemporary traditional medicine in Tanzania, plant, animal, and mineral substances with (perceived) therapeutic value are tapped as a resource for commercialization. With the encouragement of the international community, the NIMR unit and the ITM at Muhimbili seek to develop traditional medicine’s role in the national

economy. In these efforts, herbals are a potential cash crop for the poor and raw material for the factories of the elite. They are also the potential ground of patents, copyrights, and trademarks, caught up in current efforts to create intellectual property policies in Tanzania and beyond.

These two versions of the public, as they are called into being in the practices surrounding traditional medicine in Tanzania, capture (at least some of) the tensions that inhere in the notion of the public in public health. They pose questions about the sorts of publics and public spheres that are possible within networks of capitalist relations. The political life of traditional medicine rests in part on the potential public(s) they evoke as they emerge as quasi commodities through scientific investigation. Traditional medicines sediment the inclusions and exclusions critical to their production—be they as herbals, as chemical compounds, as pharmaceuticals, as solutions to the health care crisis, or as players in the global market.

The efforts described above (Faraja, Kisangau, and the commercialization of herbals by the Traditional Medicine Research Unit in the NIMR and the ITM in the Muhimbili University College of Health Science) all define the public through consumption, taking for granted that buying is a powerful way of speaking and participating. For Faraja and Kisangau, holding medicine accountable to the public within these structures of exchange means widening the scope of the public, that is, increasing those who have access to and can participate in this space of address. Cheaper medicines make it easier for more people to use their purchasing power as a form of address. For Malabo in the NIMR, it is about the ability of national address in an international public that is shaped by global markets. How can Tanzania participate more effectively in the global herbal market? For the ITM at Muhimbili, it is about traditional medicines’ presence in the clinic, that is, producing a form of traditional medicine that will be able to participate in calling into being a new public. When the physicians at Muhimbili did not cooperate by including these traditional medicines in their prescriptions, then the institute began selling them directly from their offices on the hospital grounds. All of these efforts seek to reshape the public—to reshape the space of address—by generating particular forms of stranger sociality through the circulation of medicines. None challenge the public as a critical form of modern power. What we see by contrasting these efforts, however, is that these articulations of the public both reflect and establish the conditions of possibility for participation, entitlement, rights, obligations, and interests.

The Science of Public Domain, or Moldy Bananas

Saudin Mwakaje is the architect of the first intellectual property management policy for the University of Dar es Salaam (adopted by the full faculty senate in April 2008). He holds a position in the School of Law and maintains a private legal

16. The institute has a farm in Kibaha just outside Dar es Salaam where much of the material for these medicines is grown.

17. In Kiswahili, literally asthma, difficulty breathing, or lung.

practice in town that specializes in intellectual property issues. One rainy April afternoon, he welcomed me into his university office, despite the fact that he was still dealing with the effect of a flood in the building over the weekend. As we sat drinking warm, milky tea, I confessed that I found it hard to see intellectual property in action, given the lack of patent applications and litigation in Tanzania at this point. Mwakaje responded by suggesting that the dynamic work in this area is not currently visible in the patent office or the courts but rather that the work of the moment is to create what he called a “culture of IP.” He envisioned putting intellectual property rights “in very simple language.” He argued that while “people think that innovation is something big . . . we need to make them realize that it is in their everyday activities.” Although Mwakaje spoke of the everyday in one breath as the crafts that women make for tourists who think that they are buying something traditionally African or Tanzanian, in the next breath he suggested that the best place to start inculcating a culture of innovation is the engineering school at the university.

With a similar reading of the landscape, the Commission for Science and Technology (COSTECH) in Tanzania has established an office to build the culture of IP. The staff of the Tanzania Intellectual Property Advising Services and Information Center travel around the country setting up information tables, talking to crafts people and entrepreneurs, and giving workshops about intellectual property. In interviews, Athman Mgumia, appointed to this center and an agronomist by training, as well as his boss, Nicholas Nyange, the chief science officer in the Directorate of Research Promotion and Coordination at COSTECH and a plant breeder by training, speak eloquently of the issues around plants with medicinal value and potential commercial value. As these two men strive to work out ways for citizens and states to navigate the forces of global capital and transnational legal norms and to develop COSTECH’s role as the government’s gatekeeper, they mobilize healers and scientists as iconic figures—joining Mwakaje’s craftswomen and engineers—in the fight for national rights, African prosperity, and global justice through a new culture of innovation. These figures embody different but coexisting histories of entitlement and relations with things. As such, healers and scientists shape the contours of debates over how and to what end Tanzanians might take up new capitalist technologies for property development, such as patents, trademarks, databases, and professional and trade journals. The mechanisms of inclusion and exclusion mobilized by these legal technologies structure citizenship with differentiated rights and possibilities of access. The debates in Tanzania over the emergence of these variegated forms of citizenship leave uncertain the implications of Nyange’s declaration that “we have to open the eyes of the nation that now they have to think differently.”

One of Nyange’s concerns is with the academic research and writing. “After someone writes about [the medicinal value

of a plant], publishes it, then it exists. Before it did not exist, it was hidden, but when exposed it exists in a new way. Now, then, you have a challenge. How do you protect that scrub?” He laments that in Tanzania too few scientists think of the effects of this ontological shift in the status of a plant that is made into an object of scientific knowledge through their writing. “Companies build a culture for their profit. Not so much for scientists.” Here, Nyange raises the public in terms of public domain. When scientists publish something about the medicinal value of a plant or its chemical properties, then that knowledge is said to be public. Individual healers, communities, or nations have a difficult time making legal claims to that knowledge as their private property. The knowledge of plants in trade or professional journals can circulate broadly and becomes public in the sense that there are no restrictions on who may capitalize on this knowledge. It is not “owned” by anyone, and therefore using it to make private knowledge does not carry (financial) obligations. Scientists in Tanzania, Nyange is suggesting, are not yet on the whole savvy or strategic about creating public domains or about negotiating the production of public and private knowledge in a globally competitive field.

Dr. Kenneth Hosea is part of a new generation of scientists. Although he admits that his research has not been driven by an effort to obtain patents, some of his current projects are pushing him to “think differently.” Scientific research, however, requires collaboration. The forms of inclusion and exclusion, the moments of circulation and enclosures defining entitlement, are complicated and shifting. One of the research initiatives about which Hosea was most excited between 2006 and 2010 was a series of preliminary studies of the antiviral activity of *idundi* extracts. Since completing his own doctoral research in applied microbiology in Nijmegen, the Netherlands, Hosea has cultivated a broad interest in the medicinal properties of traditional foods as well as medicines.

Idundi is a moldy banana eaten by people in the Same and Lushoto regions of Tanzania, especially new mothers who are recovering from childbirth and those who are weakened from injury or disease.¹⁸ As a master’s student in Hosea’s laboratory investigating *idundi*, Amina Msonga found that a local dispensary in Same advises both male and female patients with diabetes to eat *idundi* following bouts of acute illness. People in the region also told Msonga that some have fed the porridge to ailing domestic animals. The fermentation of bananas in preparation for *idundi* is not usually a specialist’s activity, although some older women are known for

18. Bananas are the primary starch in northern Tanzania. Many eat them multiple times a day. Others have described the rich social life around the planting, cultivation, and harvesting of bananas as well as the role played by banana trees in mediating gender relations; marking life-course events; delineating home, farm, and family; and so on (e.g., Stambach 2000; Weiss 1996).

making particularly potent idundi. Women start to prepare the bananas in their last month of pregnancy. The black dried bananas are also available in village markets. Many debate whether market bananas are as strong as those made at home.

Hosea becomes particularly animated when he speaks of the possible antiviral properties of an idundi extract that he and Msonga prepared. For consecutive summers, Hosea used the small amount of money and the additional student labor available to him as a result of his role in a study-abroad program for minority undergraduate science students from the United States to start preliminary studies of the bioactive secondary metabolites from fungi on the fermented bananas. With the help of a colleague from the veterinary school at Sokoine Agricultural College, about an hour and a half west of Dar es Salaam, he and his group of both US and Tanzanian students tested the effects of idundi extracts on fertilized chicken eggs infected with infectious bursal disease virus (IBDV). Hosea selected IBDV for his studies not only because infectious bursal disease remains a significant challenge in Africa and globally but also (and for him even more importantly) because he sees IBDV as similar to HIV. As an RNA virus characterized by immunosuppression, he reasons that any evidence that idundi is effective against IBDV would support a hypothesis for further study that idundi may also be effective against HIV. In the small preliminary studies conducted in the summers of 2007, 2008, and 2009, Hosea and his students found that the embryos treated with idundi extracts continued to develop and hatch into chicks. A control group of embryonated eggs inoculated only with the avian flu virus all died. As a result, they have concluded that the idundi extract seems to protect chick embryos against IBDV.

These viral experiments grew from the significant research that Hosea and his students conducted during the previous 2 years. Msonga (building on Elibariki 2006) cultivated microbial isolates from idundi in the laboratory, produced secondary metabolites from these microorganisms, tested their antibacterial and antifungal properties, and began identifying the chemical families to which the bioactive metabolites are related. To begin, Msonga traveled north from Dar es Salaam to Same to learn how to prepare idundi. She peeled, soaked, fermented, dried, and pounded her own set of moldy bananas under the supervision of an elderly woman recommended to her as particularly proficient in the making of idundi. When done, Msonga took her samples back to Dar. She grew the banana molds in petri dishes and then through careful visual inspection began to separate out similar-looking growths. Colonies were often different colors. She took a tool with a small wire loop on the end and used it to gently touch the petri dish in a place where it appeared that one distinct and strong colony of bacteria or fungi was growing. She then transferred these microorganisms by rubbing the loop in a small circle on a new sterile petri dish. In a few days, fresh colonies bloomed. She continued the process of distinction, separation, and growth until she had generated a variety of different colonies

with visibly similar characteristics. She “tried to get all [the different types of bacteria and fungi that comprise idundi], but” she noted that “of course one can’t.” At times, in some samples some microorganisms crowd out the others in the petri dish. In the end, she managed to isolate three bacteria and six fungi from the moldy bananas she fermented (Msonga 2009).

She then turned to the creation of secondary metabolites of the bacteria and fungi she isolated from the idundi. Secondary metabolites are chemicals produced by plants that biologists do not think are linked to the primary functions of the plant (including growth, photosynthesis, and reproduction). Because they have been observed as being harmful to herbivores and pathogens, secondary metabolites are thought to be defense mechanisms. Msonga’s thesis joins a large and growing literature about the therapeutic effects of secondary metabolites. With brine shrimp and agar-filled petri dishes, she tested the antimicrobial properties of these secondary metabolites against known bacteria and fungi, comparing their ability to stop the growth of the bacteria and fungi against that of common pharmaceuticals. In this way, she strove, in her own words, “to verify the claims of the Pare people that idundi has some therapeutic value” (Msonga 2009:6). The science of secondary metabolites provides a language to speak about the value of the black molds on bananas to indefinite others. In other words, it promises to transform “the claims of the Pare” by recasting the space of the address through scientific verification.

The emergence of new publics in traditional medicine are not determined by, but are entangled with, the sorts of materialism that grounds therapeutic value and the complicated relations that shape the particular forms of matter that emerge through scientific investigation. Laboratory collaborations often highlight the difficulty of conducting scientific research in a university that does not have the funds to establish cutting-edge facilities. One of the more troublesome limitations for Hosea in his work is the lack of expertise and technology in Tanzania for chemical sequencing. Graduate student meetings are held, in part, to brainstorm solutions to these challenges. In one such meeting between Hosea and 10 of his graduate students, they addressed the need to send the sample prepared by Amina Msonga out for chemical sequencing. A few weeks earlier, some of her samples had been headed to Montana with a colleague invited for a collaborative research visit in a laboratory at the state university. Unfortunately, at the airport US immigration turned this woman around, declaring that the visa she was granted at the embassy in Dar es Salaam was not the proper one. This determined student intends to try to go again, but neither Msonga nor Hosea wanted the idundi samples to wait for that. Msonga suggested sending the samples to Nairobi, but Hosea commented that the laboratory was both sloppy and expensive. He decided that they would send them to South Africa, commenting that they could be mailed. This decision led to reminiscing among the students about a recent set of samples sent to South Africa

through FedEx that had arrived at the laboratory in a broken box, apparently having been stepped on in transit. The uneven distribution of scientific skill and unequal access to laboratory technologies that shape this active social life of emerging metabolites also shapes who generates (both public and private) knowledge. The postcolonial laboratory makes clear the fact that emerging property regimes—and the technologies of entitlement and notions of ownership that comprise them—intervene in assemblages of people and things who are themselves products of inequitable and unequal relations. The specifics of these relations, I am suggesting, are critical to any investigation of how the public domain is produced and what it is comprised of as much as it is part of any investigation into the dynamics of capitalization.

After finishing her thesis and taking up a teaching post at a relatively new university in central Tanzania, Msonga won a scholarship to continue her research through a PhD in Germany. In the meantime, Hosea took on another PhD student who investigated the chemical structures of idundi in collaboration with a laboratory in South Africa. How will these transnational collaborations influence future configurations of the public as well as of notions of ownership? Will the new, stranger sociality facilitated by the chemical isolates described above successfully exclude all those nonscientific others who have different sorts of relations with the black molds on bananas in northern Tanzania (e.g., Adams 2002)? Or will the forms of inclusion and exclusion, inside and outside, use and ownership that these others foreground disrupt the sociality of science and capital? As long as the answers to these questions remain uncertain, traditional medicine is fertile ground for debates over how capital entangles the public of public domain in the hopes of public health. In Tanzania, both scientists and bureaucrats are increasingly aware that exactly what is at stake in the collaborations that constitute scientific engagements around traditional medicine is the way that the public of public health may be reconstituted when it is brought into contact with public domain.

(Dis)affective Publics

The World Intellectual Property Organization's (WIPO's) Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge, and Folklore (IGC) was forged out of the anger and frustration of developing countries with the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). As the head of the WIPO's Traditional Knowledge Division commented to me, "Only now are many of the delegates realizing the implications of their support for this forum" (personal communication, 2013). After more than a decade of debate and in the midst of the tensions that have led to the need to extend the text-based negotiations for international legal instruments, delegates to the IGC are faced with the fact that taking traditional knowledge seriously may demand a fundamental reformulation of intellectual property itself as it is codified in TRIPS

(rather than only a separate policy to deal with some forms of knowing or topics of knowledge deemed traditional). Alliances within the IGC embody the disaffection of developing countries. They are shaping the publics of traditional knowledge as it becomes entangled in a range of struggles over intellectual property and its link to global governance. Yet the text-based negotiations of the IGC require that deep emotional, intellectual, and political divides be kept between the brackets in working documents, that is, reduced to refusals to reach consensus on the terms of debate (see also Riles 2001). The sense and sentiment that drives the political will to continue to engage traditional knowledge is difficult to capture. Perhaps for this reason I have long mulled over a chance interview with a doctor who staffed the Traditional Medicine Unit in the Tanzanian Ministry of Health in 2008. The encounter requires reflection on the tension in struggles over clinical, scientific, and legal ontologies. It insists that any account of the publics of contemporary traditional medicinal knowledge include an account of the angers, fears, and desires that spur accusations of neo-colonialism and contemporary imperialism in postcolonial Africa.

I ran into Dr. Mizani,¹⁹ the assistant director of the Office of Traditional Medicine in the Ministry of Health, as I was leaving a note for another colleague. Hearing of my research, he invited me into his office. Most of the subsequent hour and a half conversation covered the history of the movements of African people on the continent and their relations with "the West." After asking me where I was from and hearing my answer that I was from the United States, he began to lecture me on how only "Red Indians" are really "from" America. The white people, he told me, came in and killed off the Red Indians; they stole the land. Even the Inuit are really Chinese. Only the "Red Indians" are indigenous. Mizani moved to discuss how *wazungu* [meaning foreigners, usually Caucasian] have stolen so much knowledge from Africa. Shaka Zulu, he argues, taught Europeans about military formations. The first university in the world was in Egypt. Charlemagne was an Ethiopian. "Wazungu, they erase history." They "forget" how much they have learned, how much they have taken from Africa and Africans. He told me that when he was in China he studied under a great doctor who had spent 20 years researching a particular medicine. An *mzungu* also came to study with this doctor. On returning to Europe, this *mzungu* reverse engineered the medicine that was the culmination of the Chinese doctor's hard work. Mizani angrily accuses this *mzungu* of stealing his Chinese mentor's medicine. All over the world, he said, the *wazungu* take the work and the products of others. They claim ideas and things for their own. They erase history.

His lecture then veered to gender issues and how all men are the same around the world. Perhaps, he suggested, it is their Y chromosome. All men will help cook, that is not different. But men must, he said, do things together with their wives. He

19. Pseudonym used.

used the example of making the bed. If a woman asks a man to smooth the sheet, to make the bed with her, then he will help. But a man, he argues, will never just start making the bed himself. All *binadamu* (humans) are the same he says. “My point,” he unexpectedly concluded, “is that we should work in collaboration.” There can be ways of sharing, he assured me. This was a false crescendo, however, for we were quickly off again, this time to more contemporary geopolitical developments. The two superpowers on the rise, he stated, are Russia and China. Russia is superior in technological development. The Chinese, however, have money—just look at the new cities they built for the Olympics. Mizani opened up some pictures of him standing on the Great Wall of China. In 2004, he accompanied the minister of health to China. In 2006, he participated in a 3-month training course in Chinese traditional medicine in China.

As our conversation slowly wound down, Mizani told me that he completed his medical degree in Tanzania. He also holds a master’s in public health. He took up his post in the Office of Traditional Medicine in 2005. He is now studying for a master’s in business administration, and he showed me his 83-page proposal dealing with insecticide-treated bed nets. In closing, he invited me back the next day. He said in English, “We would want to be able to use your data. To collaborate.”

Mizani’s disaffection provides a clue to the forms of attention that traditional medicine generates. Theories of the public as engendered through discourse (and thereby differentiated from populations, target groups, communities, citizens, and mobs) raise complicated ethnographic questions, not least of which are how to account for the subtle tones and tempos of address and to articulate what it means to be attuned to these tones and tempos. Critical distance from dominant publics (and the forms of discourse that call them into being) is not only produced through explicitly oppositional rhetoric, it is also embodied in the desires, interests, fears, pleasures, and anxieties. The development and production of modern traditional medicine is overtly directed at a global audience, yet it is set in a key that unsettles dominant forms of attention. Power lies in this tuning. For this reason, Mizani’s diatribe should not be easily dismissed: it elaborates the fact that inherent in traditional medicine’s address is an awareness of structural inequalities that shape Africa’s continual marginality and poverty.

In calling for collaboration, he is calling for a role in the shaping of traditional medicine’s publics. He is arguing that he, his office, and his colleagues be included in the circulation of knowledge about, if not also included in the production of knowledge elucidating, traditional medicine in Tanzania. His request for collaboration is a request to participate in the forms of address that will shape how the notions of public in public health change as they come together with those in public domain.

Mizani’s narrative captures the affective landscape in which modern traditional medicine lives. He reveals how scientific investigations of traditional medicine and the collabora-

tions they entail mediate arguments about neocolonialism/neoimperialism and serve as the ground for imagining other sorts of relations even within the current asymmetries of the global economy. The tensions and accusations, the barely concealed frustration and anger, and the desire to engage—to not be left with the choice between exploitation and marginalization—were palpable in our exchange.

The structures of feeling Mizani captures also motivate the more bureaucratic efforts of delegates from developing countries in the IGC and the more academic language of texts that promote traditional medicine’s role in development. The later is exemplified by the recent book *Science, Technology, Innovation and Socio-economic Development: Success Stories from Africa*, prepared and published by the International Council for Science Regional Office for Africa (Muhongo et al. 2009). The impetus for this book grew from a series of conferences, including the Science with Africa conference mentioned above. While the volume covers topics as far ranging as health, information and communication technology and mathematics, environment, and energy, the first three of the 11 chapters are about traditional medicine. Traditional medicine emerges in formal efforts to shape Africa’s relations with world. In the words of the editors, it holds the promise that African countries can “make the dramatic shift from resources- to knowledge-based economies” (v), that is, to contemporary forms of capitalism (Rajan 2006). The promotion of African success and African traditional medicine captures the tensions of postcolonialism as a struggle to be better positioned in global markets driven increasingly by the privileges that inhere in intellectual property.

Conclusion

This essay examines how the publics of public health and those of public domain are reshaping one another in efforts to commercialize and manage modern traditional medicine in Tanzanian universities, government laboratories, non-governmental clinics, and ministry offices. When African states, such as Tanzania, as well as international organizations, such as the UN, strive to develop traditional medicine, they are also striving to reorganize the public within the realities of neoliberal restructuring. The public their work imagines remains entangled with the market—whether through initiatives to capitalize on herbals as a resource that could reposition “Africa” in global markets or through efforts to establish safe, cheap, African-made drugs that would decrease the reliance of national health care services on multinational pharmaceutical companies. It is because of these entanglements, not despite them, that traditional medicine offers hope. It creates a space to imagine action—political, ethical, scientific, and medical—that is engaged with but not faithful to grand narratives of nation and capital.

Focusing on how the translations, unintended uptakes, misunderstandings, diversions, and distortions that occur in the scientific investigation and bureaucratic management of

traditional medicine influence sociality reveals how frustration and anger at “the West” can come to be coupled with calls for collaboration with a local US researcher. This coupling embodies the frictions born of African refusals to accept that marginalization and exploitation are the only two possibilities for Africa in global engagements. Disaffections mobilize different trajectories of participation in the global economy and articulate rights and protections in conjunction with a modified expansion of market logics. For this reason, traditional medicine emerges as a particularly generative lexicon through which Africans imagine and challenge sovereignties in Africa today. Contemporary traditional medicine becomes a way to experiment with political and social philosophies, with biological efficacy, and with new forms of wealth and property all at once.

This experimentation can at times move quickly from the technical—even mundane—matter of a few experts to include a less predictable and indefinite set of others through political debate, media coverage, academic scholarship, commercial proliferation of products, regional and international development efforts, and legal activism. Particularly when potential solutions to problems confronted in the scientific and bureaucratic development of traditional medicine touch on trade-related policies and property claims, debates erupt over the complicated dynamics through which African sovereignty may be opened up or closed down. Should there be databases of traditional therapeutic knowledge? If so, should they be held privately or publically? Should they be used defensively to prevent patenting of knowledge in the public domain, or should they be resources for scientists (internationally or nationally) to shape investigations that will lead to greater innovation? Should healers be included in scientific research? If so, should this inclusion be defined by the possibilities in benefit-sharing agreements? Should the origins of plant material or therapeutic practices be marked on products and/or on patents? Are foreign researchers drawing on therapeutic knowledge widely held in one region of Africa guilty of biopiracy? What constitutes “widely held”? Are African scientists who do the same evaluated differently? Do the intentions of scientists matter? Should both foreign and domestic herbal medicines be registered with the Tanzanian Food and Drug Administration? If so, should they be registered as pharmaceuticals or dietary supplements—or some other way? The stakes in the nitty-gritty details of these scientific, legal, economic, and bureaucratic debates are no less than how science and capital enable or disable African self-determination and sovereignty. For this reason, the intensity of affections and disaffections, hope and despair, and celebration and ire around traditional medicine runs high.

Traditional medicine expands our understanding of the public as a modern form of power, while theories of the public elucidate the revival of traditional medicine in this new millennium. The construction of publicness (the partial and shifting forms of the public) in efforts to commercialize, develop, and manage traditional medicine highlights that fact

that publics are transformed by intentional and unintentional, planned and spontaneous, and coordinated and haphazard actions in multiple spheres. When intellectual property law begins to reshape new laboratory relations, the publics of traditional medicine teach us that publics emerge in interstices—here, in the interplay between the publics of science and those of law. The edges of overlapping publics may, at times, become visible as resistances, such as the refusal of free patent drugs in lieu of traditional medicines distributed by an HIV counseling center and efforts to use intellectual property law to protect communal knowledge.

Traditional medicine challenges the forms of accountability and articulations of liability embedded in international health development and the forms of governance that it facilitates. The political promise of traditional medicine rests in African efforts to reclaim some sort of inclusiveness for the public—for some this inclusiveness is in greater access to safe, affordable medicines; for others it is about indigenous production of pharmaceuticals and herbals; and for still others it is the greater participation of African countries in global markets. All strive to be part of the forms of address and the discursive circulations that constitute the shape of the public. All strive to open up the overdetermined position of Africa as marginalized and/or exploited through their multiple forms of engagement, be they bold, wild, subtle, careful, systematic, charismatic, hopeful, or angry.

Acknowledgments

The core of this research was funded by the Fulbright Foundation, with supplemental support from the Biomedicine in Africa project at the Max Planck Institute for Social Anthropology, Halle, Germany. My thinking about intellectual property law developed through study supported by a Mellon Foundation New Directions Fellowship. Additional research through the National Science Foundation and the Wenner-Gren Foundation as well as a Mario Einaudi Center for International Studies Seed Grant and the Institute for Social Science at Cornell University contributed to this essay and to my ability to ethnographically analyze these trends over the past 7 years. I am grateful to all of my interlocutors in Tanzania, particularly Professor Ken Hosea, whose intellectual rigor, deep curiosity, and generous friendship have directly shaped this work. These ideas germinated in the generous and engaged conversations I was privileged to be part of from 2006 to 2011 in the Biomedicine in Africa group at the Max Planck Institute for Social Anthropology. Our Bodies and Bodiliness workshop in Moshi, Tanzania, in 2010 was particularly provocative. I also found generative engagement in “Knowledge, Domination and the Public in Africa” at the Dalhem Conference, Berlin, Germany. Many others also commented on these ideas, as the essay developed through shorter papers at the American Anthropological Association over the years; particularly impactful were comments from Vincanne Adams, Lenore Manderson, and Susan Shaw.

Comments

Rajshree Chandra

Centre for Policy Research, Dharma Marg, Chanakyapuri, New Delhi 110 021, India (rajshree2chandra@gmail.com). 29 X 14

The key question that can be read from Stacey Langwick's essay is this: Given the shifting and often contradictory nature of alignments between medicine, nation, and citizen that have progressively shrunk the public space of health care in Tanzania (erosion of investments in national health care systems triggered by the structural adjustment programs of the IMF in the 1980s; problem of access to medicines as a consequence of globally enforced intellectual property laws from the mid-1990s), how are we to view the induction of traditional medicine into public, national, and international circuits of health care, commodity, and commerce?

The short answer of Langwick's meticulous and probing analysis is that one should see it as holding out an offer of not just therapeutic potential but also political potential. She illustrates her point through two sets of examples drawn from her ethnographic work. In the first instance, she cites the work of Kisangau research and the Faraja clinic, whose interventions are precisely in spaces and among people the state has failed. In the second, Langwick takes the examples of the NIMR and the ITM, which source medicinal plants and substances for commercialization as cash crops, raw materials "for factories of the elite," potential ground for patents, copyrights, and trademarks—in short, resources that plug into globalized agendas defined by capital and markets.

The political life of traditional medicine rests in part on the potential publics they invoke. On the one hand, Faraja and Kisagau sustain the self-reliant, indigenous part of the pharma industry. On the other, the NIMR and the ITM create the possibility of national address in an international public that is shaped by global markets. "It is because of these entanglements, not despite them, that traditional medicine offers hope... It creates a space to imagine action... that is engaged with but not faithful to grand narratives of nation and capital."

While this forms the core thesis of her essay—and one that is hard to fault, in terms of both its substantive content and its articulation—it is her conclusion toward the end of the essay that strikes a discordant note. Not only does Langwick see the two practices of traditional medicine as practices that propagate new publics and inaugurate modes of agency that forestall, push back, relate to, engage with, engage against, and are outside of the power of the state and corporations, she also sees the revival of traditional medicine as "expand[ing] our understanding of the public as a *modern form of power*" (emphasis mine). Three modes are cited: by challenging the forms of accountability and liability embedded in international health development; by providing greater access to safe, affordable indigenous medicines; and by opening up multiple

forms of engagements, framed outside Africa's marginalized and exploited status.

All three modes point to a shift, pertinently so, in gradual differentiation of both national identity and social life outside the overdetermined spaces of capital and nation. The point, however, is whether to see these as modes or exercises of power. Proliferation of multiple public spheres has come to be a feature of modernity, particularly in its intersections with postcoloniality. However, polycentrism in itself can at best indicate emergent enclaves of inclusions and forms of agency. While these enclaves may not be overdetermined by nation or capital, they will always retain sufficient degrees of integral linkages with both to not develop a resistive potential that could transform it into a "modern form of power." Power indicates not just the ability to push back and cull out spaces that are not constituted by state and/or capital. It indicates more than a capacity to forestall manipulative consumption and passivity. And it should indicate more than communication and reflexivity between contrasted lifeworlds.

The global intellectual property regime continues to foster epistemic hierarchies by keeping traditional knowledge outside considerations of intellectual property. The exclusionary and appropriative capacities that accompany traditional and scientific knowledge are vastly different. The terms of trade between plant (medicinal, herbal, etc.) resources and finished, commercialized, and/or patented medicines continue to be hugely exploitative, benefit sharing notwithstanding. The publics that are excluded because of lack of access to expensive essential medicines continue to fight death and debility in disturbingly large numbers. These are symptomatic of the contrary ideological character of the variegated public spheres. Offers of market- and state-mediated inclusion also contain within them the conditions for unprecedented degrees of exclusion and stratification. While these emergent publics and their spheres create strategic sites for symbolic as well as material recognition for local communities and nations, in practice it is beset with a whole host of normative and pragmatic concerns. The essay gestures toward them but does not take it beyond to challenge the Habermasian idea of communicative rationality as having the potential to counter the normative challenges arising from the material and cultural complexities of internationalized development.

Rosemary J. Coombe

Joint Graduate Programme in Communication and Culture, Faculty of Liberal Arts and Professional Studies, 2017 TEL Centre, 88 The Pond Road, York University, 4700 Keele Street, Toronto, Ontario M3J 1P3, Canada (rcoombe@yorku.ca). 2 XII 14

The anthropology of publics is concerned with publics as political subjects, as discursive fields, and as concepts invoked in social interaction (Coady 2011:38). Anthropologists studying the law, practice, and discourse of intellectual property have

contributed to our understandings of publics by exploring some of the constitutive contradictions at the heart of modern liberalism—public and private, collective and individual rights, property and the commons, national patrimony and common human heritage, corporate control and individual freedom, tradition and modernity, the raw and the cooked—from which the ideological edifice of Western intellectual property is built.

In rich, ethnographic studies of the generativity of legal discourse in social imaginaries, anthropologists have shown that the places emerging “outside” of intellectual property and alongside its increasing global reach are not the empty spaces of freedom projected by commons advocates but are highly politicized sites of dwelling and aspiration, moral economy, political subjectivity, possessive attachment, patrimonial assertion, and new practices of stewardship—new publics emerging in transnational, postcolonial, and neoliberal conditions. Langwick continues and contributes to this tradition in her discussion of the ways in which government research institutes, university scholars, and NGOs in Tanzania interact with and discuss the contemporary value and uses of traditional medicine and thereby imagine distinctive publics.

It soon becomes evident that the publics with which Langwick is concerned are not collective political subjects but figures evoked in new fields of social discourse enabled by global and national attention to traditional medicine as a knowledge-based asset under conditions of informational capitalism. She focuses more on “the cultural production of political claims that have been crafted for public circulation” (Coady 2011:47) than on self-conscious, recursive, self-abstracted, mass-mediated subjectivities making interventions into fields of power. In her work, the public is reconfigured from a political subject to an abstract “space of address to indefinite others” about “a given object of discourse.” She sketches a social imaginary of emerging public concern among various Tanzanian social actors differently situated, for whom traditional medicine is a lexicon and a boundary object offering new opportunities for expressing aspirations for alternative political futures. It is far from clear whether the “publics” entertained under these postcolonial conditions are imagined to exercise any agency with any political efficacy and in what contexts. This is not surprising.

Rather than a deviation from a uniform Westphalian to post-Westphalian normative trajectory, the postcolonial experiences of vast numbers of the world’s peoples is the past and likely the future of governance itself—“transnationalization of state, the privatization of government functions, overlapping sovereignties, legal pluralism and the fragmentation of the political sphere and judicialization of politics” (Bell 2007:4). Although Langwick does not map the dispersed networks of power in which traditional medicine figures, in Tanzania, as elsewhere, “political hopes, scientific and legal technologies, medical institutional structures, commercial desires, and the social space of illness and treatment” are intertwined. If fields of actual governmental power are multiple and interlocking such that no

singular public serves as an ideal interlocutor nor any addressee the ideal audience, the target of address may be an even greater phantom—an emergent and as yet unknown African sovereignty.

Langwick’s work raises important questions about political economy with respect to the price of entry into international deliberations and the specific qualities and distribution of technologies and social capital that enable successful interlocution into the scientific and legal fields where credible claims might be mobilized as interventions. Within public sphere theory, active publics hold power (at various scales) accountable through rational interlocution; postcolonial publics as spaces of address take on various and sundry attire, attributes, and ends (nation, producer, consumer, nonproprietary, public knowledge), all of which attract affective energies difficult to channel. Those occupying this space must engage the attentions of a wider variety of actors, partially listening, if at all, in a range of institutional venues and deliberative fora. In the absence of clearly authoritative addressees, the “object of discourse” itself gets vested with responsibilities and called into account in diverse registers. Traditional medicine must increasingly account for itself (commercially) and be held accountable (socially) through markets, into which political desires for inclusivity and participative parity are now projected.

Traditional medicine, Langwick demonstrates, offers promise for several forms of greater inclusiveness that are understood politically, whether through greater access to safe, affordable medicine; opening up the pharmaceutical industry to community production of plant-based products; greater participation of Tanzania in global markets; or inclusion of African scientists in both public and proprietary deliberations about medical efficacy. In short, publics are imagined and projected in normative projects of idealized sovereignty that necessarily take the market as their ground and their platform. Langwick’s map of this dynamic field of activity makes a unique contribution to political and legal anthropology.

Ruth J. Prince

Institute of Health and Society, University of Oslo, PO Box 1130, Blindern, Oslo 0318, Norway (r.j.prince@medisin.uio.no). 15 XII 14

Euphoria around the provision of free ARVs for East Africans, supported by US aid and global philanthropy, has given way, among many East Africans, to concerns and questions about the future. In an age of austerity, will donors remain committed? When ARVs change bodily physiology, raising hunger pangs to an unbearable level among persons living in chronic poverty, can they really enable the individual to flourish in health and life? Might traditional medical plants offer an alternative, at least for those whose immune systems are still fairly robust, to delay initiation into harsh pharmaceutical treatment regimes? These are questions that the

Tanzanian scientists, government officials, NGO directors, PhD students, and traditional healers followed by Stacey Langwick are pursuing answers to. Their experimental investments speak to hopes and dreams regarding the science of traditional medicine in East Africa as they search for possibilities to realize the value, or rather valences, of therapeutic plants—as sustainable therapies untied to pharmaceutical markets, as commercial medicines, as intellectual property, as a route toward self-reliance and a means of entering global markets. This is not, or not only, a tale of neoliberal restructuring of science and health. While experiments in university laboratories, private clinics, NGO offices, and government ministries continue the disaggregation of healers from their medicines and from institutions of political power, they also seek to make new aggregates, not all of them commercial. In following these aggregates, Langwick documents East African efforts to create a future for African health and a place for Africa in the global political economy through the use of therapeutic plants.

As Langwick reminds us, healing in postcolonial Africa has long been entwined with issues of political power, sovereignty, and the making of publics. An object of disregard and active suppression in the colonial era, traditional medicine enjoyed a renaissance after Tanzania's independence, as President Nyerere pursued a vision of socialist health care in which healers and their knowledge could contribute to the public's health. In the context of Pan-Africanism, non-aligned socialism, and support from China, the new nation sought to institutionalize traditional medicine (Langwick 2011*a*) and incorporate it into a progressive national health care system. After structural adjustment, current interventions into the uses of healing plants take shape in a landscape where commercial interests dominate and in which new relations between governments, citizens, and corporate interests are being forged. Yet while these emerge within a framework of neoliberal restructuring, they are not entirely determined by it. Efforts at making traditional medicine valuable encompass various imaginaries of responsibility and obligation. Few locate responsibility for health within state action, and many are pursued with commercial interests in mind. Yet it is striking that in their pursuit of the potentials of plant medicine, Tanzanians continue to both imagine and address an inclusive public requiring protection and care (see Ferguson 2013; Geissler et al. 2013). In these visions of a more sustainable and “public” health, we see the legacies not only of Nyerere but of Richard Titmuss, influential supporter of the United Kingdom's National Health Service, who was invited to produce a blueprint for a national health service in Tanganyika (Titmuss 1964), for whom the health service was a “utopian enclave” (Harrington 2009) and the foundation of a society based on equality, mutual responsibility, and care.

This material challenges our assumptions that the patient as citizen and the patient as consumer belong to two different eras, and it reveals how deeply both of these notions of patient (and public) are entwined in the rather contradictory

developments of postsocialist Tanzanian neoliberalism. As past attempts to build national health care systems have been swept aside in the move to open health care to the market, it is sometimes remarked that the publics of public health are being reduced in many African countries to those targeted by vertical disease programs or humanitarian interventions. The obligation and duty of the state to respond to pain and debility—never enacted in a robust manner—has been fractured, and health care is constituted as a matter of individual choice and voluntarism, of global humanitarian concern and philanthropic entrepreneurship (Prince and Marsland 2013). Much of the literature on global health follows this geography, highlighting global circulations and individual bodies, the push toward neoliberalism and privatization. Langwick's work opens up another perspective, as it draws attention to the (variously successful) efforts among Tanzanians to “push against” the reduction of health to therapeutic enclaves and to address a national public in making scientific capacity and expanding the means of protection and care. Like Noemi Tousignant's innovative research on the science of toxicology in Senegal (Tousignant 2013), Langwick explores how Tanzanians are turning neoliberal opportunities into dreams of nation building (see also Gerrets 2015). This subtle ethnography alerts us to the efforts of East Africans to invoke a national and inclusive public of public health, even as, in doing so, they must contend with the fragmented, unstable, and dynamic nature of the publics they call into being.

Noelle Sullivan

Global Health Studies and Department of Anthropology, Northwestern University, 1810 Hinman Avenue, Evanston, Illinois 60201, USA (noelle.sullivan@northwestern.edu). 5 XI 14

In taking up publics, Langwick draws attention to the ways that Tanzanians attempt to participate in the spaces of engagement made possible in a global economy operating on the logics of capital. In so doing, she shows how modern traditional medicines offer a means of (re)imagining possibilities for inclusion. Her work suggests that publics are a useful analytic for understanding how modern power works, in practice—“that is, to think through the subtle ways that exclusions and forms of marginalization are both established and challenged in contemporary Africa and beyond.”

Langwick draws on Warner's notion of the public as “a space of address to indefinite others” (2002). Publics, in Warner's rendering, refer to attempts to enter into discourse with strangers. Those strangers that might be part of a public can be imagined only partially, particularly given the rapid rise of communication technologies that allow people (“publics”) to engage with discourses in increasingly rapid and unpredictable ways.

The main argument of the article is that two publics—the public of public health and the public of public domain—are brought together through various imaginings and investments in modern traditional medicine. A focus on publics allows Langwick to interrogate the ways that traditional medicines become a focal point of the aspirations of a variety of actors—from bureaucrats and scientists trying to bring plant, mineral, and animal substances into a global market to patients who seek health (or, at least, relief from the side effects of pharmaceutical treatments) in the absence of a robust state health system.

In reading this article, I was reminded of James Ferguson's work on enclaves. I see Langwick's work as a nuanced example of what Ferguson calls "the shadows of an Africa-in-the-world" (2006:17), in which actors maneuver themselves in an effort to claim inclusion and membership in a global economy marked by structural inequalities that often exclude them. Langwick's attention to these attempts at address is at once inspiring and ominous; it reveals possibilities for more inclusive membership while also foregrounding the asymmetrical global economy that persistently informs and constrains the kinds of engagement that are even possible.

In my ethnographic fieldwork in hospitals in northern Tanzania, I have observed a similar narrowing of the spaces of possible address. Hospital administrators find themselves successfully able to articulate the needs of their institutions only within the strict confines of donor and state prioritizations of HIV/AIDS, malaria, and reproductive health. Other pressing concerns related to the actual morbidities of their populace or the dignity of their patients are beyond donor and state interest. Health professionals hope for haphazard benefactors to come along who might find those scarcities worthy of investment. Despite continual attempts to engage any visitors who will listen, rarely do these efforts incite action or bring in additional funds, although on sparse occasions their appeals bear fruit. Similar constrictions have been found for community-based development surrounding HIV/AIDS, the funding for which is often far from the actual needs of the populations meant to benefit, and attempts to engage NGOs by earning multiple certificates in hopes of accessing formal employment that rarely comes about (Prince 2014; Swidler and Watkins 2009).

For anthropology, this analytic potentially sheds light on the confines of the system through which people in marginalized countries can imagine possibilities for successful engagement with the global economy. Yet I find myself wondering about the actual contours of the publics that Langwick's interlocutors imagine. The two publics emphasized here are those of public domain and public health, and that they are brought together in a variety of ways through traditional medicine. There are other publics suggested but less developed here: public "inspired by publicity," "public-as-citizen" morphing into "public-as-consumer." They converge, and at points they clash. Sometimes they seem to fit inside one another. This, of course, makes them challenging to define or fully capture in writing.

Do all of the actors described here define so concretely the publics they wish to address? If "traditional medicine emerges as a particularly generative lexicon through which Africans imagine and challenge sovereignties in Africa today," precisely where and how sovereignty fits into efforts to address imagined publics is left somewhat unclear (yet tantalizing) in this analysis. While some actors imagine particular publics, might others seek opportunities to address any public that will listen, without necessarily a sense of what public might respond or what potential impacts these efforts might have on sovereignty more broadly?

Langwick's work asserts the continued need for fieldwork that recognizes and takes up the politics of healing, which are transforming in important ways at the interstices of science, law, and neoliberal restructuring. Ultimately, these links are suggestive and are worthy of additional anthropological exploration.

Claire Wendland

Departments of Anthropology, Obstetrics and Gynecology, and Medical History and Bioethics, University of Wisconsin–Madison, 5240 William H. Sewell Social Sciences Building, 1180 Observatory Drive, Madison, Wisconsin 53706, USA (cwendland@wisc.edu).
10 XI 14

In the early months of 1995, hundreds of thousands of people traveled to a Malawian village to drink *mchape*, an herbal remedy for AIDS. The recipe for *mchape* had been given by his ancestors in a dream to Billy Goodson Chisupe, an elderly Protestant with no prior healing experience, on the condition that he make it available without cost to anyone who wanted it. Malawi's health ministry issued cautious statements but never condemned the affair. In fact, many civil servants were granted leave and transportation to go drink *mchape*—long years before enough donor money was finally mobilized to make ARVs publicly available. In its aftermath, some interpreted the *mchape* '95 movement as a "public sphere" for debate over the meaning of suffering, opposing an older communal approach to addressing misfortune to a newer biomedicalized approach in which illness and cure are private, if still morally fraught (Probst 1999). Others interpreted the episode as a grassroots protest against government passivity and Western disregard for African lives in the face of a devastating epidemic (Doran 2007).

Two decades on from the *mchape* '95 movement, in the neighboring nation of Tanzania, Langwick asks us to think through the ways in which traditional medicine functions not as a sphere for public debate or protest but as a way of invoking—perhaps creating—different kinds of publics. Her work shows various actors using herbs, roots, moldy bananas, and other materia medica to many different ends. Scientists

make publications and careers of them, invoking a scientific public and simultaneously making claims to membership therein. Healers at an herbal clinic promote them at low cost for people who cannot tolerate (or afford) the great hunger that is a common side effect of ARVs. Various researchers and officials hold out hope that traditional medicines will allow Africa to take its rightful place in the world as a source of knowledge, not just raw resources; that they can serve as inexpensive treatments for widespread afflictions; or that they can be global moneymakers. Inequitable global economic relations underlie and complicate every one of these (actual and possible) uses, as Langwick's excellent list of unanswered questions at the article's end makes clear. State failure—at least the failure of a functional public health system—is presumed in most of them. It is no wonder that the affective weight borne by traditional medicines is so palpable in the ethnographic moments she describes.

As Langwick (2011a) and others (Feierman 1999; Kodesh 2010) have pointed out, precolonial East African structures of authority linked the power to heal with the power to rule. Colonial states tried to separate the two, in part by dividing a prohibited public healing from a tolerated use of herbs conceptualized in the narrowest sense as phytopharmaceuticals (considered both innocuous and private). That the separation of healing and political power never fully took hold is evident not just in events like *mchape '95* but in the postindependence Tanzanian state's attempt to achieve legitimacy through provision of biomedical care. Just as the effects of HIV began to be felt, structural adjustment separated healing and ruling again; the state's primary task was to ensure welcoming conditions for business, and it was left to business to sell "health care" that citizen-consumers could buy. In this context, traditional medicine becomes another commodity, its efficacy often measured in patents, packages sold, visibility outside Tanzania, publications, and global sales—and rarely, at least among the clinicians and scientists described in this article, in terms of effects on suffering people's bodies and lives. It is in this context that a modern traditional medicine, already stripped of the spiritual and social practices in which it was once embedded, is increasingly separated from any notion of healing—public or private—at all. If this is therapeutic sovereignty, it is light on the therapy.

As I think Langwick hints here, it is light on the sovereignty, too. The political promise of contemporary traditional medicine is a shrunken one: neither public moral cleansing through righteous political leadership nor public protest against national impotence and international indifference. Given the ethnographic evidence, I do not see the pushback "against the neoliberal trend redefining the public through consumption" that Langwick does. I see a weary capitulation to it, an attempt to make that consuming public larger either by going beyond the bounds of the nation to wealthier consumers outside or by making medicines cost less so that more Tanzanians can buy them.

In Malawi, *mchape* is long gone, as are many of those who drank it. The new herbal cure touted for HIV is *Garani MW1*, sold for a substantial sum through authorized sales representatives in the country's four largest urban areas, its ingredients the closely guarded secret of a midlevel Malawi bureaucrat. The public of public health is about who may buy, the public of public domain about who may profit. Langwick asks, "Who is obliged to respond to pain and debility?" Apparently, no one.

Reply

No African would deny the possible dangers, frauds, and violences of traditional medicine. Tanzanians do not have to go even as far as neighboring Malawi to wonder about the power and the problems of cure-all medicines that draw large crowds. The Babu of Loliondo, as he is called, drew 30-km lines along a dusty road in northern Tanzania in 2011 and 2012 as he distributed tens of thousands of Dixie cups filled with a medicinal tea said to cure AIDS, diabetes, hypertension, cancer, and a range of other diseases. Some hopeful patients died on the road. Some people with HIV/AIDS threw away their medicines in their excitement about this tea and in the end grew sicker and weaker. Doctors sometimes critiqued this wildly popular trend, but some also simultaneously went to visit Babu for themselves or their loved ones who suffered with tenacious and debilitating diseases. Even the scientists at the NIMR interested in the therapeutic effects of the root that Babu used as well as its ethnobotanical history in the area saw the complications in his mass treatments. These dangers make traditional medicine controversial, fraught with tension and emotion. Healers also have complex evaluations of medicine, and individual healers can grow serious in discussions over the ethics of healing. The line between healing and harming, the dangers of moving between embodied and disembodied worlds, the entanglements of the physical and the spiritual have always problematized any superficial claims that traditional medicine is a simple good—therapeutically, morally, or politically. It may be this very complexity that makes traditional medicine a particularly dynamic space to imagine engagements with science and capital. The potentialities that energize traditional medicine and its publics figure a world that recognizes that science and capital may be destructive or generative or both; science and capital may contribute to harming or healing or both.

The revival of interest in traditional medicine in Africa over the past 15 years provoked the specific issues that I am grappling with in this essay. Many dismiss the increased interest in traditional medicine as "only political." I have found this dismissal unsatisfying, even as there is some truth in the

political nature of the revival. The argument here is an attempt to think through the current interest in traditional medicine a bit more deeply: to ask what it achieves, what drives its dynamism. Therefore, I am not posing the question of whether traditional medicine “should” capture the imagination of Africans. Nor am I asking whether traditional medicine is a valuable resource to public health. I do not (here at least) develop an argument about particular ways that traditional medicine might be useful in meeting health development goals or in imaging solutions to complicated property debates. Rather, I explore why traditional medicine is capturing the imagination of Africans. How can we understand the energy and dynamism of this project? I suggest examining how the efforts around traditional medicine materialize the desire to change or broaden the publics at stake in contemporary configurations of power. Attempting to account for the publics that these sorts of projects generate is accounting for the political. It is not divorced from science or efficacy. The political is deeply entangled in what comes to be recognized as both science and efficacy. I suggest that focusing on these entanglements opens our accounts to the affective power and the political energy of traditional medicines that capture Tanzanians’ attention. It enables ethnographic reflection on the aspirations both “inspiring and ominous” that Sullivan sees and the “weary capitulations” that Wendland recognizes.

Drawing on the work of others, I understand the public as a modern form of power, the formation of which has been and remains critical to the governance of modern states. The question taken up here is whether the publics generated by traditional medicine open up new aspects of our thinking about the public. Traditional medicine in Africa appeals to national registers but cannot be explained as a nationalist strategy. Nowhere in Africa does traditional medicine provide the cultural substance for a national imaginary. It is always regional. It is “African.” This scalar difference from other efforts to modernize traditional medicine (China and India, in particular) is, I am suggesting, quite salient. The practices that constitute these notions of the public must contend with the transnationalization of the state, the subnational enclaves created by health development efforts, the increasingly overdetermined equation of therapy with drugs, and the constitutive power of both the logics and the material realities of the market.

I share Chandra’s concern over neoliberal techniques of managing difference through pluralism. Not all Tanzanians, however, are grappling with traditional medicine in ways that support the creation of a “proliferation of multiple public spheres.” I dare say that many are only remotely interested, if at all, in the “communication and reflexivity between contrasted lifeworlds.” They are working actively to become part of international arenas and to change those international arenas so that they are something that they would rather be part of. The Tanzanian scientists I know, for instance, are not interested in an African science or an indigenous science; they

want to have their work taken up as international science. They may not succeed. Furthermore, the products of this science and the commercial and therapeutic efforts that accompany it may not have political efficacy. It is true that efforts to manage herbal medicines through separate bureaucratic networks (yet on principles of pharmaceutical production) as well as trends toward creating intellectual rights related to traditional medicine through a *sui generis* system (a separate system that will not disrupt the ideas of property at the heart of current global intellectual property regimes) raise important questions as to contexts in which traditional medicine might be political efficacious. I agree wholeheartedly with Chandra’s analytical critique of the global intellectual property regime. So, I dare say, would many Tanzanian healers and scientists. In fact, this is exactly what they are trying to muddle their way through even as they are beset by “a whole host of normative and pragmatic concerns.”

I am drawn to the friction in these commentaries between Chandra’s provocation to push “beyond . . . the Habermasian idea of communicative rationality as having the potential to counter the normative challenges arising from the material and cultural complexities of internationalized development” and Coombe’s observation that “in the absence of clearly authoritative addressees, the ‘object of discourse’ itself gets vested with responsibilities and called into account in diverse registers.” The very context in which publics might be said to include nonhumans (such as traditional medicines) is a question that interests me even as there was not enough space in this article to unpack this broader argument. Moving beyond the sorts of communicative rationality that mark Habermas’s public sphere could begin with such attention to the ways that “traditional medicine must increasingly account for itself (commercially) and be held accountable (socially) through markets, into which political desires for inclusivity and participative parity are now projected.” Sullivan’s call for more research might then be seen as encouraging the examination of these forms of accounting and accountability.

Collectively, the commentaries on this essay point to the possibility that attending to the rise of modern traditional medicine might contribute to work about the complex ways that the contemporary state has become entangled with the market (or, more precisely, how a particular form of the state has emerged with a particular form of the market). Tanzanian scientists and healers, academic institutions, governmental organizations, and NGOs recognize the profound inequalities of neoliberal reform even as they must contend with the ontological centrality of “the market” in global politics today. Some are searching for ways to refuse or push back against these inequalities even as they find ways (perhaps off-center ways) of participating in market logics and relations. The gestures here are not grand. They do not present as ultimate solutions by national heroes. One often hears in Tanzania that traditional medicines work slowly, and so, it seems, does the gathering of their political potential.

Prince's comments describe the elusiveness of the hopes and aspirations for a different future that Africans hold even as they are realistic about the dynamics that shape the present. In reflecting that "this is not, or not only, a tale of neoliberal restructuring of science and health," she points to the making of "new aggregates, not all of them commercial." Pursuing the potentials of plant medicine through commercial interests while simultaneously imagining and addressing "an inclusive public requiring protection and care" demands experiments in the consolidation, stabilization, and maintenance of these "new aggregates." As Prince notes, contemporary traditional medicine in Tanzania takes up simultaneously the patient as citizen and the patient as consumer. These no longer belong to different eras. At times, contemporary traditional medicine also takes up plants as pharmacological agents and social therapies and medicines as commercial objects and relational actors.

I appreciate the way that the provocations and elaborations in each of these commentaries draws out, pushes back against, and alters the implications of this essay methodologically and politically. All take up the challenge of approaching the emergent affective ontological construction of publics in public health and public domain (no less how these publics are shaped by their relations with one another) ethnographically. Together they highlight the benefit of training our attention on the generation of aggregates that could enable new articulations of sovereignty while remaining attuned to the power of dominant notions of science, the state, and the market. Subtle attention over time is required to discern when the dynamism and energy of contemporary traditional medicine is capitulation or collusion and when it is a radical insistence or desperate hope that the world could be otherwise—and when this dichotomy can no longer capture the complex and "contradictory developments of postsocialist Tanzanian neoliberalism" and its publics.

—Stacey A. Langwick

References Cited

- Adams, Vincanne. 2002. Randomized controlled crime: postcolonial sciences in alternative medicine research. *Social Studies of Science* 32(5–6):659–690.
- Bannerman, Robert H., John Burton, and Ch'en Wen-Chieh. 1983. *Traditional medicine and health care coverage: a reader for health administrators and practitioners*. Geneva: World Health Organization.
- Bashford, Alison. 2006. Global biopolitics and history of world health. *History of the Human Sciences* 19(1):67–88.
- Bell, Vikki. 2007. The potential of an "unfolding constellation": imagining Fraser's transnational public sphere. *Theory, Culture and Society* 24(4):1–5. [RJC]
- Brotherton, P. Sean. 2012. *Revolutionary medicine: health and the body in post-Soviet Cuba*. Durham, NC: Duke University Press.
- Coady, Francis. 2011. Publics and politics. *Annual Review of Anthropology* 40:37–52. [RJC]
- Colvin, C. J., and S. Robins. 2009. Social movements and HIV/AIDS. In *HIV/AIDS in South Africa 25 years on: psychosocial perspectives*. P. Rohleder, L. Swartz, S. C. Kalichman, and L. C. Simbanyi, eds. Pp. 155–164. New York: Springer.
- Doran, Marissa C. 2007. Reconstructing mchape '95: AIDS, Billy Chisupe, and the politics of persuasion. *Journal of Eastern African Studies* 1(3):397–416. [CW]
- Elibariki, G. 2006. Molecular characterization of fungi associated with a traditionally fermented banana food from north-eastern Tanzania. MS thesis, University of Dar es Salaam.
- Feierman, Steven. 1985. Struggles for control: the social roots of health and healing in modern Africa. *African Studies Review* 28(2/3):73–147.
- . 1999. Colonizers, scholars, and the creation of invisible histories. In *Beyond the cultural turn: new directions in the study of society and culture*. V. Bonnell and L. Hunt, eds. Pp. 182–216. Berkeley: University of California Press. [CW]
- Feierman, Steven, and John Janzen. 1992. *The social basis of health and healing in Africa*. Berkeley: University of California Press.
- Ferguson, James. 2006. *Global shadows: Africa in the neoliberal world order*. Durham, NC: Duke University Press.
- . 2013. Declarations of dependence: labor, personhood, and welfare in southern Africa. *Journal of the Royal Anthropological Institute* 19:223–242. [RJP]
- Fraser, Nancy. 2008. *Scales of justice: reimagining political space in a globalizing world*. New York: Columbia University Press.
- Geissler, P. Wenzel, Ann H. Kelly, John Manton, Ruth J. Prince, and Noemi Tousignant. 2013. Introduction: sustaining the life of the polis. *Africa* 83:531–538. [RJP]
- Geissler, P. Wenzel, and Ruth Prince. 2009. Active compounds and atoms of society: plants, bodies, minds and cultures in the world of Kenyan ethnobotanical knowledge. *Social Studies of Science* 39(4):599–634.
- Gerrets, Rene. 2015. International health and the proliferation of "partnerships": (un)intended boost for state institutions in Tanzania? In *Para-states and medical science: making African global health*. P. Wenzel Geissler, ed. Pp. 179–206. Durham, NC: Duke University Press. [RJP]
- Hardt, Michael, and Antonio Negri. 2001. *Empire*. Cambridge, MA: Harvard University Press.
- Harrington, John. 2009. Visions of utopia: markets, medicine and the National Health Service. *Legal Studies* 29(3):376–399. [RJP]
- Hayden, Cori. 2003. *When nature goes public: the making and the unmaking of bioprospecting in Mexico*. Princeton, NJ: Princeton University Press.
- Janzen, John. 1992. *Ngoma: discourses of healing in central and southern Africa*. Berkeley: University of California Press.
- Kalofonos, Ippolytos Andreas. 2010. "All I eat is ARVs": the paradox of AIDS treatment interventions in central Mozambique. *Medical Anthropology Quarterly* 24(3):363–380.
- Kisangau, D. P., H. V. Lyaruu, K. M. Hosea, and C. C. Joseph. 2007. Use of traditional medicines in the management of HIV/AIDS opportunistic infections in Tanzania: a case in the Bukoba rural district. *Journal of Ethnobiology and Ethnomedicine* 3:3–29.
- Kodesh, Neil. 2010. *Beyond the royal gaze: clanship and public healing in Buganda*. Charlottesville: University of Virginia.
- Lan, David. 1985. *Guns and rain: guerrillas and spirit mediums in Zimbabwe*. Berkeley: University of California.
- Langwick, Stacey. 2011a. *Bodies, politics and African healing: the matter of maladies in Tanzania*. Bloomington: Indiana University Press.
- . 2011b. Healers and scientists: the epistemological politics of research about medicinal plants in Tanzania or "moving away from traditional medicine." In *Evidence, ethos and experiment: the anthropology of medical research in Africa*. P. Wenzel Geissler and Catherine Molyneux, eds. Pp. 263–295. New York: Berghahn.
- Msonga, Amina. 2009. Bioactivity of secondary metabolites from microbes isolated for idundi, traditionally fermented bananas from Tanzania. MS thesis, University of Dar es Salaam.
- Muhongo, Sospeter, Francis Gudyanga, Achuo Enow, and Daniel Nyanganyura. 2009. *Science, technology, innovation and socio-economic development: success stories from Africa*. Pretoria: ICSU Regional Office for Africa.
- Nguyen, Vihn-Kim. 2004. Antiretroviral globalism, biopolitics, and therapeutic citizenship. In *Global assemblages: technology, politics, and ethics as anthropological problems*. A. Ong and S. Collier, eds. Pp. 124–144. Malden, MA: Blackwell.
- . 2010. *Republic of therapy: triage and sovereignty in West Africa's time of AIDS*. Durham, NC: Duke University Press.
- Peterson, Kristine. 2014. *Speculative markets: drug circuits and derivative life in Nigeria*. Durham, NC: Duke University Press.
- Porter, Dorothy. 1999. *Health, civilization and the state: a history of public health from ancient to modern times*. London: Routledge.
- Prince, Ruth J. 2013. Situating health and the public in Africa: historical and anthropological perspectives. In *Making and unmaking public health in Africa: ethnographic and historical perspectives*. Ruth J. Prince and Rebecca Marshland, eds. Pp. 1–51. Athens: Ohio University Press.

- . 2014. Precarious projects: conversions of (biomedical) knowledge in an East African city. *Medical Anthropology* 33(1):68–83. [NS]
- Prince, Ruth J., and Rebecca Marshland, eds. 2013. *Making and unmaking public health in Africa: ethnographic and historical perspectives*. Athens: Ohio University Press.
- Probst, Peter. 1999. Mchape '95, or, the sudden fame of Billy Goodson Chisupe: healing, social memory and the enigma of the public sphere in post-Banda Malawi. *Africa* 69(1):108–138. [CW]
- Renyolds Whyte, Susan, ed. 2014. *Second chances: surviving AIDS in Uganda*. Durham, NC: Duke University Press.
- Richey, Lisa Ann. 2011. Anti-viral but pro-natal? ARVs and reproductive health: the view from a South African township. In *Reproduction, globalization and the state*. C. Browner and C. Sargent, eds. Pp. 68–82. Durham, NC: Duke University Press.
- . 2012. Counseling citizens and producing patronage: AIDS treatment in South African and Ugandan clinics. *Development and Change* 43(4):823–845.
- Rajan, Kaushik Sunder. 2006. *Biocapital: the constitution of postgenomic life*. Durham, NC: Duke University Press.
- Riles, Annelise. 2001. *The network inside out*. Ann Arbor: University of Michigan Press.
- Sanders, Todd. 2008. *Beyond bodies: rainmaking and sense making in Tanzania*. Toronto: University of Toronto Press.
- Schoenbrun, David. 2006. Conjuring the modern in Africa: durability and rupture in histories of public healing between the Great Lakes of East Africa. *American Historical Review* 111(5):1403–1439.
- Stambach, Amy. 2000. *Lessons from Mount Kilimanjaro: schooling, community, and gender in East Africa*. New York: Routledge.
- Swidler, Ann, and Susan Cotts Watkins. 2009. "Teach a man to fish": the sustainability doctrine and its social consequences. *World Development* 37(7):1182–1196. [NS]
- Tantala, Renee Louise. 1989. The early history of Kitara in western Uganda: process models of religious and political change. PhD dissertation, University of Wisconsin, Madison.
- Titmuss, Richard. 1964. *The health services of Tanganyika: a report to the government*. London: Pitman. [RJP]
- Tousignant, Noemi. 2013. Broken tempos: of means and memory in a Senegalese university laboratory. *Social Studies of Science* 43(5):729–753. [RJP]
- Warner, Michael. 2002. Publics and counterpublics. *Public Culture* 14(1):49–90.
- Weiss, Brad. 1996. *The making and unmaking of the Haya lived world: consumption, commoditization, and everyday practice*. Durham, NC: Duke University Press.
- Wilkinson, Kate. 2013. Do 80% of S. Africans regularly use traditional medicine? Africa Check website, July 31. <http://www.africacheck.org/reports/do-80-of-south-africans-regularly-consult-traditional-healers-the-claim-is-false/>.