
Bioexpectations: Life Technologies as Humanitarian Goods

Peter Redfield

What if the state were nothing more than a way of governing?
—Michel Foucault, *Security, Territory, Population*

One of the key features marking “failed” states in contemporary political discourse is their incapacity to serve the needs of their respective populations, to govern as well as rule.¹ Amid the ruins of bureaucratic infrastructure (which in specific historical terms may have existed only in imagination) lies a sense of moral as well as political duty: a sovereign power that does not foster life loses a basic claim to legitimacy. We expect that people—even small children—will live. Furthermore, as a legacy of the biopolitical welfare provisions, we now attribute responsibility for their well-being to their respective nation-states or, failing that, to international agencies. Ordinary existence has become not only a matter of expert concern but also a thoroughly normative one, as taken for granted as the political form of nation-state or the condition of citizenship itself.

I thank Carlo Caduff and Tobias Rees for organizing the Biopower Today conference held at the University of Zurich in June 2011 and the other participants for their thoughtful and timely engagement. I am likewise most grateful to Andrew Lakoff and two reviewers for rapid and thoroughly helpful suggestions.

1. See “The Failed States Index” produced by the Fund for Peace (2011). Although this particular index stresses security indicators, its map mirrors those of humanitarian agencies to a striking degree.

The following essay examines this field of expectations left behind by the ascendancy of life amid politics, our common biopolitical imaginary, if you will, in the grand rhetorical tradition of an “international community.” My topic is not the state per se, particularly its gleaming instantiation in parts of the world where, say, schoolchildren routinely receive health education or straight white teeth define a norm. Rather, I explore the shadow of such service capacity amid its evident absence, in settings where even basic health infrastructure constitutes a rare exception. Most specifically, I am interested in the landscape of humanitarian imagination, particularly that of providers and the technologies they deploy. Although these material artifacts may not claim the future in the forceful manner of nanotechnology or genetic research, they nonetheless do indicate another shifting horizon, one perhaps just as significant for the future of social life as we know it. In their very design, these objects reflect doubts about state capacity to safeguard populations. Rather, they are distinctly humanitarian goods, presenting themselves as an ethical response to failure on the part of states — and sometimes of markets and forms of civil society as well. As such they participate in another market of sorts, one that focuses expressly on populations in need and thus values its commodities through an ethical as well as an economic calculus.

Foucault’s account of biopower famously focuses on the emergence of the modern European state. Contemporary experience, however, includes concerns about life and health that exceed this political form, involving international agencies, nongovernmental organizations (NGOs), and private corporations. What might biopolitics look like “without the state,” so to speak? Or, more accurately, what might it look like within a terrain where the state appears through chronic inadequacy, not the exercise of certain force. The following pages seek to outline one answer, following a line of ethical engagement as it now extends along a frontier of capitalism. Amid humanitarian concern for human life and the alleviation of suffering, a variety of initiatives both attest to the continuing power of assumptions relating life and politics and indicate an altered sense of a state role within them. Although life remains as much or more a moral good than ever, the apparatus seeking to ensure it now stretches beyond state bureaucracies, and even partly beyond NGOs to a motley of public-private partnerships and ethically oriented corporations. Through the alchemy of innovative design and empirical monitoring, they focus on meeting the most urgent needs of poor people in extreme circumstances.

It might be tempting to gloss this attempt at reconfigured governance simply as neoliberalism. However, such an analytic move risks overlooking specificities

involved and the manner in which actors foreground moral and medical rather than market values. Their logic might indeed often emphasize self-governing subjects, accept profit motives, and minimize the role of state institutions. Nonetheless, their ethical sensibility extends beyond any faith in market reason. Indeed, it expressly qualifies any calculation of market efficiency with an initial rejection of human cost. People should not suffer, at least at the most minimal level of need. In this regard, the perspective takes its cue from the emergency end of the aid spectrum—humanitarianism rather than development. If energetically presented, these are hardly utopian visions. To the contrary, they remain resolutely realist, seeking minor improvements in a landscape deeply riven by want, violence, and disaster, what Fiona Terry (2002: 216) aptly terms a “second best world.” Their technocratic horizon remains far more delimited than either the statist or non-governmental complexes of earlier decades (Ferguson 1990; Fisher 1997). At the same time, their heavy emphasis on expert monitoring and evaluation differs from early movements for appropriate technologies (Willoughby 1990).

Examining this terrain reopens the category of “neoliberal,” permitting more specific interrogation about the shifting assembly of techniques and approaches lumped under that name, as well as their potential reappropriation in use (Collier 2011; Ferguson 2009). Here I simply offer a preliminary outline, presenting a modest collection of examples from this humanitarian realm of concern and venture in government. The objects in question all seek to foster basic life functions, offering health, nutrition, clean water, and sanitation. The entities behind them all share a common value of life, which constitutes their primary preoccupation. In this they depart from the larger corporate social responsibility movement, where ethics is more often an afterthought than a core business, and instead focus directly on the “bottom of the pyramid” (Cross and Street 2009; Dolan and Rajak 2011; Schwittay 2011). Moreover, all my examples operate on a relatively small scale, at the margins of both nonprofit and corporate life (Welker, Partridge, and Hardin 2011). It would thus be a mistake to overemphasize their effects or suggest that they offer any general solution when states and agencies fail. Indeed, I insist on their heterogeneity by presenting them as a loose collection, in the style of an early modern cabinet of curiosities. First, however, I sketch the normative moral vision that unites and animates them, their sense of how things “should be.”

The Biopolitical Imaginary

Foucault's exploration of what he called biopower remained staunchly historical and focused on Europe.² Nonetheless, I suggest that it holds analytic relevance for contemporary contexts, provided we focus less on the particular practices that Foucault identified under that rubric and more on the larger field of effects surrounding them. Alongside the actual work of fostering life appears the larger prospect of doing or not doing so. If the power to make live or let die increasingly "complemented" the sovereign's juridical "right of the sword" to take or spare life (Foucault 2003: 240–41), then it ushered in not only a new era of expertise but also a revised image of what constituted proper and effective rule in the first place. The good ruler should attend not just to law, or even epidemics, but also to infant mortality rates. Hygiene and infrastructure matter, not just for purposes of public stability but also for the good of the population. What I want to emphasize here is a general orientation, a biopolitical horizon of possibility as much as concrete action—in short, an "imaginary." This imaginary, together with associated expectations about life, could extend far more broadly than realized achievements and, in turn, inspire practices of its own.

Foucault himself eventually expanded his investigation to address the general problem of human conduct indicated by the term "governmentality" (Rabinow and Rose 2006: 199–200). Nonetheless, the modern nation-state remained both a primary source of inspiration and an orienting point of reference. In an initial lecture presented in Brazil in 1974, Foucault shifts quickly from the problems of medicine described by Ivan Illich to William Beveridge's blueprint for a "right to health" imagined amid Britain's stoic endurance of the Second World War. Noting the irony of claiming life amid an intense episode of killing, his text locates the birth of a new "somatocracy" in the decade of 1940–50, comparing the new attention to bodies to a theocratic concern for souls (Foucault 2004 [1974]: 6–7). Foucault (2007: 128) later extended the religious comparison to reflect on pastoral power and the image of a ruler as a watchful shepherd, ever attentive to the well-being of the designated flock. This theme of power as service proves particularly relevant to the present. Stretching far beyond the state itself, the biopolitical imaginary now anticipates its potential failure. At the same time, the expectation

2. Foucault sought to map the outlines of welfare expectations attached to the modern state, as well as the problem of human life amid economics and politics, the latter understood as a form of war. Although this endeavor evolved over time, Foucault's emphasis lay with the beginning of things, far more than all of what they might go on and do—a concern of seeds and roots more than shoots and leaves (Foucault 2003, 2007, 2008; Rees and Caduff, n.d.).

that people should live produces moral outrage when they do not. Concern for the well-being of distant others—expressed as humanitarianism—authorizes a growing range of action along the frontier of ethics and politics (Barnett 2011; Bornstein and Redfield 2011; Fassin and Pandolfi 2010; Feldman and Ticktin 2010; Wilson and Brown 2009).

Beyond the state, who or what might take over aspects of a pastoral role in the service of the healthy individual? The obvious answer would be elements of civil society—now primarily conceived in practical terms as an array of NGOs, inter-governmental agencies, and increasingly hybrid “public-private partnerships.” Such entities generally present themselves as operating for the benefit of given populations as well as given individuals within them, either in cooperation with a state or in its absence. In their efforts to do so they deploy common technologies of government services, running clinics and distributing medicine and providing food, water, and shelter in moments of emergency. More recently, however, some of their ambitions have extended beyond temporary mimicry into more preemptive forms of innovation, anticipating the failure of markets as well as states and, indeed, the existing apparatus of aid itself.

Here I catalog a series of cases to include the rich welter of detail they carry with them. Looking at discrete technologies, I suggest, provides clues about fluctuations within both the biopolitical imaginary and the tumultuous “politics of life” surrounding human inequality (Fassin 2007, 2009). What subjects might emerge, and how might they fit against classic political dyads like citizen and state? Where might they fit with capitalism and the market? Three of my four cases depart from the nonprofit tradition of aid by featuring corporations that offer humanitarian products as a part of an ethically framed business venture. A significant section of their potential distribution network, however, runs through the aid world and its complex of subsidized purchasing. To set the stage, then, I begin with an example on the other side of the profit line: philanthropic activity amid an otherwise commercial domain.

Case 1: DNDi and Nonprofit Drugs

I take my first case from a broader phenomenon: the appearance of multiple efforts to create nonprofit pharmaceuticals to treat unprofitable diseases. Around the turn of the last millennium a number of initiatives began to focus philanthropic and humanitarian energy on providing the world’s poor with greater access to pharmaceutical products. This new wave included the Medicines for Malaria Venture (MMV), founded in Geneva, 1999; One World Health (OWH), San Francisco,

2000; the Global Alliance for TB Drug Development, or TB Alliance, run among New York, Brussels, and Cape Town, 2000; the Drugs for Neglected Diseases Initiative (DNDi), established in Geneva, 2003; and a looser consortium of researchers led by the University of North Carolina at Chapel Hill, 2000. They emerged out of a longer, contested history surrounding the definition of “essential medicines” as well as the powerful tide of transnational moral discourse surrounding treatment for HIV/AIDS (Greene 2011; Petryna, Lakoff, and Kleinman 2006).³ This latter influence provided the critical ethical template, casting the question of drug availability as a matter of life and death, one that exposed the injustice of global inequality in particularly stark terms. Following the establishment of experimental treatment programs and high-profile legal maneuvering in Brazil, South Africa, and elsewhere, activist pressure and generic manufacturing interest carried the day in dramatically lowering prices for antiretroviral medications.⁴ Although the AIDS struggle continued into a thicket of trade law, fluctuating funding, and evolving protocols, its essential question of treatment access carried over to those concerned with other deadly conditions. What about major killers such as tuberculosis and malaria or less publicized diseases like sleeping sickness?

In broad terms, all these new nonprofit ventures shared certain features, including a focus on diseases afflicting poor populations and a faith in public-private partnerships. This hybrid financing and management approach had emerged as something of a norm in infrastructure and health projects by the end of the 1990s, altering conceptions of a public sphere and its related services (Clarke 2004; Osborne 2002). Instead of relying on taxation and redistribution to fund initiatives, the partnership approach stressed mutual benefit and spoke the language of investment. Thus the drug initiatives took shape as independent entities, drawing on funds from international networks of donors that included philanthropists as well as states, with the new Bill and Melinda Gates Foundation cast in a leading role. Their moral discourse asserted the value of human life, while advocating medical justice in the form of pharmaceutical research. Although at times echoing the rhetoric of social movements in particular contexts (e.g., Robins 2010), these initiatives emerged from expert communities, in contrast to the AIDS leg-

3. They also joined older entities like the Special Programme for Research and Training in Tropical Diseases (TDR), established by the World Health Organization (WHO) and other international entities in Geneva in 1975, and the International Dispensary Association (IDA), begun by pharmacists in Amsterdam in 1972.

4. Biehl 2007 and Nguyen 2010 offer richer accounts of the story of global HIV/AIDS treatment for particular locales.

acy of activist patients (Epstein 1996). They also pursued something other than a classically “social” agenda. Rather than attempt to shore up state health systems around the world to serve national populations as a whole, they focused on developing therapeutic agents to treat targeted diseases. The forms of knowledge and interventions they sponsored remained specific and distributed strictly by pathogen, defined through epidemiological rather than political maps.

Here I briefly sketch the entity I know best, which is also the one with the strongest ties to humanitarian activism and oppositional politics. The DNDi sprang rather directly from the head of Médecins Sans Frontières (MSF; Doctors Without Borders), in the manner of Athena from Zeus. By the late 1990s, the group was a well-established—if ever volatile—fixture of humanitarian emergencies worldwide. It had become adept at fund-raising and largely weaned itself off of state funding in the name of independence. At the same time, the appearance of antiretroviral therapy had changed the dynamics of AIDS care, and after long resistance MSF was on the verge of embracing the pandemic as a “humanitarian crisis,” vocally advocating treatment and launching ambitious programs to provide it. Within some quarters of the organization (particularly the ancestral French section), concern was rising over the perennial problem of unequal access to medicines, as well as a general lack of drugs to combat unprofitable conditions. On occasion, MSF encountered barriers in the shape of national drug protocols, some inherited from divisions between European empires.⁵ The group eventually sponsored a conference addressing drug issues and subsequently formed a working group. The moment of pharmaceutical epiphany arrived in 1999 when, on the eve of receiving the Nobel Peace Prize, MSF launched the Campaign for Access to Essential Medicines. Denouncing global inequities in biomedical supplies, it demanded new measures to address the problem. The award of the prize, together with the publicity and funds it generated, helped fuel the rapid growth of advocacy work related to pharmaceutical issues over subsequent years.

From its inception, the access campaign included an even more significant departure for the MSF movement: a collaborative effort to directly fund and coordinate the research and development of drugs for “neglected” diseases, conditions

5. While combating meningitis in Sudan, MSF found that its usual treatment, oily chloramphenicol, did not translate into the former British Empire, where protocols favored ampicillin instead. To justify the French alternative, the group had its epidemiological wing conduct a study demonstrating effectiveness and lobby the WHO. The manufacturer of the drug subsequently ceased production owing to a minimal profits margin, and the scramble to find an alternative supply further underscored the significance of drug issues (Rankin 2005, 93–96).

not profitable enough to merit commercial drug development. MSF eventually decided to join with several partner organizations and launch the independent effort known as DNDi.⁶ Incorporated as a legal entity in Geneva in July 2003, DNDi began the task of identifying both shorter- and longer-term projects that would modify or enlarge the arsenal of medications available to combat neglected diseases. Although continuing to address major problems like malaria, it focused particularly on those it considered the “most neglected”: complaints like sleeping sickness, Chagas disease, and kala-azar, all transmitted by vectors found in marginal environments. Rather than plunge directly into comprehensive research and development itself, the initiative sought to operate as a virtual drug development organization, eliciting, supporting, and coordinating a portfolio of projects within existing infrastructures. The goal was to circumvent the marketplace by focusing on medical need and treating drugs as “public goods.”

The access campaign and the DNDi effort marked a mutation in both MSF’s practical activity and its moral focus (Redfield 2008). Whereas the group had long oriented itself toward providing rapid responses to acute crisis, drug development required different forms of engagement and knowledge, as well as a sustained funding less likely to be garnered from public appeals. As a result, MSF not only expanded its pharmaceutical advocacy work into a standing concern but also developed additional expertise in legal matters related to trade law, health policy, and drug development. Although now a separate entity, DNDi continued to receive substantial monetary support from its parent NGO, in addition to courting institutional donors. Working in a different atmosphere of relation to industry, and on a less dramatic time line than humanitarian emergency, DNDi had developed three products by 2011. The first two addressed malaria. Named for the qualities it embodies — adapted, simple, accessible, and quality — ASAQ was introduced in 2007 in partnership with the pharmaceutical giant Sanofi-Aventis and offered a fixed-dose combination of artesunate and amodiaquine (one to two tablets for three days) at a relatively low cost for African markets. DNDi proudly noted that manufacture took place in Morocco, “made in the South for use in the South.”⁷ In a similar vein, the following year the organization introduced a fixed dose of artesunate and mefloquine (ASMQ) as the “first new malaria treatment made in Latin

6. In addition to MSF, founding partners in DNDi included the Oswaldo Cruz Foundation in Brazil, the Indian Council of Medical Research, the Institut Pasteur in France, the Malaysian Ministry of Health, and the Kenyan Medical Research Institute. The new organization also worked in association with older entities like TDR.

7. This and related quotations come from the DNDi website: www.dndi.org (accessed May 20, 2011).

America, for Latin America and South East Asia.” Produced in collaboration with the Brazilian public pharmaceutical company Farmanguinhos/Fiocruz, it boasted a three-year shelf life. In 2009 DNDi announced nifurtimox-eflornithine combination therapy (NECT). As “the first new, improved treatment option in 25 years for stage 2 (advanced stage) human African trypanosomiasis (HAT) also known as sleeping sickness,” NECT finally realized the dream behind DNDi. Not only was it safer than the arsenic-based melarsoprol (which killed some 5 percent of recipients), but it was as effective, easier to administer, and cheaper and involved a shorter period of hospitalization. Donated by Sanofi-Aventis and Bayer Schering Pharma AG, more than six thousand treatments had reached the “10 African countries that account for 97% of reported HAT cases.”

From the perspective of biopolitics there are two things of particular note. First, DNDi mobilizes private as well as state resources in seeking to achieve something like a right to health. In contrast to the welfare legacy of governing populations, it relies on donations from both states and foundations.⁸ By tending to populations defined by disease rather than by nationality, its activities extend philanthropy rather than overt political claims. Second, DNDi operates in the name of exception as much as it does norm, identifying gaps and areas of both state and market failure amid international health. A relatively modest concern, it enrolls existing outside expertise, acting as a catalyst rather than as a proto-ministry. It further limits its work to highly specialized conditions, seeking to leverage research and distribution of new compounds in the service of particular underserved populations. The organization’s rhetoric remains largely one of moral appeal, and its logic humanitarian. While it might challenge states, foundations, and corporations over specific policies, it does so with an eye to also eliciting their general cooperation, balancing its role as gadfly with that of diplomat.

According to this vision, no matter how poor people might be, they should enjoy biomedical treatment and the fruits of pharmaceutical research. To expect life is thus an ethical as much as a political matter. As one of DNDi’s key slogans puts it—in a secular echo of the Christian inversion between rich and poor—the organization seeks to produce the “best science for the most neglected.” It does so in the name of public interest, under the guidance of a scientific advisory committee as well as a board of directors (including one patient representative), and fully equipped with a business plan. Nonetheless, DNDi operates on a nonprofit basis

8. In 2008 DNDi tallied an income of more than 20 million euros. About half came from governmental and intergovernmental sources, a quarter from private foundations, and a quarter from MSF (DNDi 2009: 52). MSF’s own income for that year amounted to 675.5 million euros, with well over 80 percent derived from nonstate sources, largely public appeals (MSF 2009a: 79).



Figure 1 Research and development advocacy poster for Drugs for Neglected Diseases Initiative

and presents its activities as a response to political lassitude, even while urging greater state as well as corporate involvement. One of its most telling advocacy posters, from 2005, features a vacant legislative chamber, its last remaining occupant resting his head on his hands. The accompanying caption reads, “Neglected Diseases: Have Our Governments Got Sleeping Sickness?”

Case 2: Plumpy’nut and Therapeutic Food

In contrast to DNDi, my next three examples all feature corporations. As such they disrupt the nonprofit conventions of the aid world that figure humanitarian concern through charity and the gift. At the same time, these corporations participate in the greater flow of funding among multilateral and state agencies, philanthropic foundations, NGOs, and concerned individuals. This “aid market” of donors and beneficiaries has its own calculus of exchange. Within it, sustainability is buoyed or limited by media exposure, finds a measure in grant cycles, and ultimately depends on noneconomic values such as humanitarian sentiment.

I begin with recent developments in “ready-to-use therapeutic food” (RUTF),

designed for small children facing malnutrition. The most prominent among these is a packaged mixture of peanuts, sugar, vegetable fat, and milk powder, patented by the French company Nutriset in the name of “nutritional autonomy” and licensed under the unforgettable name of Plumpy’nut. First formulated by a French pediatric nutritionist named André Briend in 1997, the concoction joined a larger wave of related products like the therapeutic milk formula F-100 and the packaged bar BP-100. Plumpy’nut not only satisfies the nutritional needs of children in a palatable way but also remains simple to manufacture, easy to store, and hygienic to administer. The Nutriset website cheerfully explains the general logic of RUTF:

As a ready-to-use food, Plumpy’nut® requires no preparation, no dilution in water prior to use, no cooking, and it can be consumed direct from the sachet. Because it can be used at home without any preparation, under the supervision of the mother or another member of the family, Plumpy’nut® makes it possible to treat the majority of children suffering from severe acute malnutrition without them needing to be hospitalized. This has made it possible to considerably increase the number of malnourished children treated, while improving adherence to the regularity of the treatment, and the recovery rate.⁹

A prepackaged super food can compensate for a lack of sanitation and expertise. Administered in the absence of nutritionists or hospitals — even a cooking fire or

9. For this and related quotations, see the Nutriset website: www.nutriset.fr/en/ (accessed May 16, 2011).



Figure 2 Child with ready-to-use food, Niger 2008. © Julie Damond/MSF

clean water—its hermetically sealed contents survive any manner of social disruption to arrive unspoiled. Plumpy’nut, in other words, floats free from a functioning health system. In this sense it compensates for state inadequacies and extends the reach of international aid. Packaged in individual servings of ninety-two grams each, a carton of the substance can bring a child to targeted weight in six to ten weeks.

The subject of debate and discussion among humanitarian and development experts, such foodstuffs constitute a nutritional standing reserve, one circulating through an explicitly humanitarian market. Founded in 1986, Nutriset seeks to follow a commitment to “invent, produce and make accessible solutions for the treatment and prevention of malnutrition.” It does so as a private company claiming an ethical purpose under the slogan “Nutritional autonomy for all.” Based in Normandy, it remains of modest size, employing some 120 people and with 52 million euros in turnover in 2009. The company estimates that its star product has “treated” a million children, with another half million benefiting from supplemental alternatives. Nonetheless, Nutriset’s ownership of manufacturing license agreements has been the matter of some controversy (Motavalli 2009; Rice 2010). Who should control the rights to such a recipe? In its own small, sticky way, Plumpy’nut provokes similar ethical debates to those of commercial pharmaceutical production and poor populations, pitting intellectual property rights against humanitarian needs.

The large-scale deployment of RUTFs under famine has likewise provoked disputes. In 2005 MSF undertook a massive program in response to malnutrition in Niger, adopting a strategy of outpatient home-based care. Using RUTFs rather than a standard inpatient therapeutic feeding center (TFC), the organization managed to treat some sixty-three thousand children while achieving similar success rates (Tectonidis 2006). Nonetheless, the response generated criticism from those invested in a developmental approach and, consequently, invested in markets and their regulation by the state. Following a meeting with regional states and donors in Dakar, the UN Office for the Coordination of Humanitarian Affairs (OCHA) issued a press release calling such humanitarian aid “a temporary, inappropriate and expensive palliative.”¹⁰ MSF fired back:

Behind the generic term “humanitarian aid,” it is free food distribution that is being stigmatized. Our United Nations colleague’s concern is unjust-

10. See also Jeffrey Sachs, Jessica Fanzo, and Sonia Sachs’s post (2010) in response to a *New York Times* story. They emphasize both the need to distinguish among forms of hunger and the fact that Plumpy’nut addresses only acute food deprivation, not chronic or long-term malnutrition.

tified however; the figures even show that it is invalid: whereas international food aid in Niger represented 20% of national production in 1984, it is now down to no more than 2% twenty years later. . . . Social welfare policies have negative effects that must also be taken into account. So why do the richest recommend to the poorest solutions that they are unable to apply at home? The poor of Maradi have to acquire food self-sufficiency, but not the poor of Paris? (Bradol 2006: 4)

Defining malnutrition as a medical problem, the group drew parallels with resistance to using antiretroviral drugs to combat HIV/AIDS in poor countries. In subsequent years, MSF continued to advocate aggressively for an RUTF approach and, by allocating more than \$40 million annually, had moved into third place worldwide for such nutritional programs, after the European Commission and World Bank but ahead of Canada and the United States (MSF 2009b: 10).

The debate over prepackaged foods mobilizes several threads of contemporary moral discourse. First and foremost, it asserts the value of ordinary human life, as directly measured in the body weight of malnourished children. However, in terms of a logic of state-based economic development its administration appears unsustainable, an ever-temporary substitute for economic exchange. The matter remains morally convoluted with regard to manufacture; although the material composition of the mixture lends itself to high mobility and local production, the patent protection of its formula and restrictive licensing mirror the intellectual property debates surrounding commercial drug manufacture. Even the details might prompt concern to an environmental conscience, since the very sachets that protect each serving from contamination also produce waste. And yet when conceived as medicine, Plumpy'nut makes eminent sense. It offers a viable therapeutic alternative to clinical care in a TFC, one far more efficient in terms of scale. Although it might not reach all malnourished children within a population, and holds out little hope for “curing” chronic hunger, it undoubtedly saves many lives. As a humanitarian palliative, it appears to work quite well.

The emergence of RUTFs reconfigures a classic biopolitical problem: that of scarcity and the threat of famine. Foucault (2007: 30–49) describes the problem of scarcity as a critical juncture of political economy, a site where a mercantilist system of prevention involving price controls and prescriptions against hoarding gave way to the expectation of a self-regulating market. From the perspective of liberal economics, security was best found in open circulation, not a restrictive effort to prevent a possible negative event. By allowing free trade, including hoarding, an optimal supply could be ensured, all through the counterintuitive action of permitting prices to rise as well as fall and attending to the natural

fluctuations of flow. Thus care for the population could appear linked to a liberalized economy rather than a tightly controlled one. In liberal settings, political economy emerged as a crucial element in the biopolitical repertoire.

By contrast, the RUTF approach accepts that market logic may shape reality of food supply through the self-regulation of price, but it refuses any threat to life that may result. Indeed, it distrusts the security that market correction promises, suspecting that it will leave behind a residue of victims. Thus when scarcity tips into famine, humanitarian concern triggers another circulation of sustenance for the starving, regulated by medical rationales rather than general economics. In this sense, Plumpy'nut anticipates real events and provides a ready-made response to them. It embodies a normative expectation that children should live and also an assumption that neither impoverished nation-states nor their attendant national markets can adequately secure a stable food supply. Medicine, not economics, will respond to exceptional malnutrition. At the same time, the emergence of RUTF also extends humanitarian action beyond classic forms of famine response (de Waal 1997). Dispensing with the cumbersome infrastructure of clinical care, it concentrates health expertise into a packaged formula, the contents of which invite decentralized production and distribution. The humanitarian conscience now exceeds both state and market at the level of nutritional design. Significantly, its reach is simultaneously global and minimal: in place of the national somatocracy of postwar Europe, we have a mobile safeguard for elementary survival.

Case 3: LifeStraw and Clean Drinking Water

My third example mirrors the second in addressing a vital need, but suggests a more generalized response. In 2005 the corporation Vestergaard Frandsen introduced LifeStraw, a water filtering technology, and three years later added a family version. The product offered a portable solution to the problem of water quality and associated diarrheal diseases. Noting the problem of unimproved water sources and the inefficiencies of extending water systems into rural areas, the company presented the LifeStraw as the means by which a population could ensure its own drinking safety:

Approximately 43% of the global population, especially the lower-income populace in the remote and rural parts of the developing world, is deprived of household safe piped water. Thus, there is a pressing need for effective and affordable options for obtaining safe drinking water at home. Point-of-use (POU) treatment is an alternative approach, which can accelerate the health gains associated with the provision of safe drinking water to



the at-risk populations. It empowers people to control the quality of their drinking water.¹¹

At that point Vestergaard Frandsen was no newcomer to humanitarian markets. Founded in Denmark in 1957 to manufacture work uniforms, the enterprise had shifted in the 1990s to create goods for aid agencies. First recycling a pile of surplus wool from Swedish civil defense stockpiles into Red Cross blankets, it moved on to manufacture tsetse fly traps, mesh filters against guinea worm, mosquito nets, and tents impregnated with insecticide. The company adapted the LifeStraw

Figure 3 Students at LifeStraw distribution in 2010 (individual model), Matungula district, Kenya. Photograph by Neil Thomas

11. For this and other related quotations, see the Vestergaard Frandsen website: www.vestergaard-frandsen.com/ (accessed May 17, 2011).

concept from a pipe filter it created for the highly successful Guinea worm eradication project sponsored by the Carter Center (itself a design based on the use of cloth filters by nomads) and ultimately refined the product into an instrument that could remove 99.9999 percent of all waterborne bacteria, without electricity, batteries, or moving parts (McNeil 2009). By now, Vestergaard Frandsen saw itself as “a Europe-based international company specializing in complex emergency response and disease control products” whose “innovation in disease control textiles is fuelled by our humanitarian entrepreneurship to create a healthier planet.”

The arc of this corporate transformation reflected a calculating entrepreneurial eye as much as it did an idealistic heart. Realizing that globalized production had eroded its viability as a small textile manufacturer in northern Europe, Vestergaard Frandsen sought alternative market opportunities. Within the family enterprise, a young son with business experience in Africa and a penchant for innovation recognized an emerging niche for humanitarian products. To be closer to a nexus of international aid organizations, the company relocated its headquarters from rural Denmark to Switzerland and actively recruited staff with expertise in global public health. By 2005 it was selling 2 million mosquito nets, with sales of \$40 million. Nonetheless, its visionary leader expressed worry in *Forbes* magazine about the sustainability of this market: “There is malaria hype in 2005. What about 2006?” (Freedman 2005). As the company continued to grow, it also sought to diversify, fully embracing flexibility and innovation alongside the UN Millennium Development Goals. When I visited in 2011, it had some two hundred staff with offices in ten countries and an innovation center actively working on product development. Whereas large chemical companies might produce mosquito nets as a sideline in the name of corporate social responsibility, Vestergaard Frandsen saw “disease control textiles” as its core business and focused on creating new applications and products, such as water filters.

LifeStraw received numerous design accolades. Studies also suggested that it both functioned efficiently and achieved a positive response from targeted communities, with “customer acceptability” rates over 80 percent. The term *customer* was quite revealing, as the company viewed its products as commodities in the sense of requiring market approval, even by populations that might be the beneficiaries of spending by others. This philosophy met with approval from a malaria adviser for the UN Foundation quoted in the *New York Times*: “Vestergaard is just different from other companies we work with. . . . They think of the end user as a consumer rather than as a patient or a victim” (McNeil 2009). Indeed, in the lumbering world of aid agencies, such a perspective pushed the boundaries. One of the company’s staff told me that in their rush to distribute supplies like mosquito

nets, aid organizations rarely investigated actual patterns of use, let alone investigated preferences for size, color, or type of material among target populations. Having previously worked for large international agencies, she found the company's openness to innovation inspiring. In humanitarian contexts, a customer might actually enjoy a greater degree of attention and autonomy than a patient or victim. Still, she acknowledged that the aid market generally entailed complex coordination beyond end users, involving not only donors but also administrative agencies like ministries of health and standard setters like the WHO and the US Centers for Disease Control and Prevention. Such standards ran well behind the pace of innovation, a fact the company found frustrating, as it did organizational commitments to procurement "competition" that assumed an unchanging marketplace.

In 2011 Vestergaard Frandsen launched an ambitious experiment known as "LifeStraw Carbon for Water" Program. Partnering Manna Energy (2011) ("a social enterprise working to develop other social enterprises"), the company invested \$25 million to distribute a million of its straws in Kenya's Western Province, seeking to provide clean water for an estimated 4 million people. Involving some four thousand newly trained local distributors, mostly community health workers traveling by motorcycle, not to mention a planned thirty-one repair shops, the effort represented a significant expenditure of energy as well as capital. The company expected to recoup its investment by selling carbon offset credits, gained through the estimated annual reduction of 2 million tons of emissions saved by reducing the use of wood fires to boil water. Indeed, it had selected western Kenya as a pilot site precisely because of such fuel use, as well as prior experience in the region. Underscoring the significance of water procurement in the daily lives of poor women, Vestergaard Frandsen joined with Women Deliver (a maternal health advocacy organization) to sponsor a competition for two female bloggers to cover the rollout.¹² Beyond the innovative gamble on carbon offsets to bypass donors, one of the most notable features of this venture was its emphasis on monitoring outcome. Since the carbon market demanded evidence of actual reduction, the company had an incentive to carefully document its product's distribution and use. To this end, it had equipped all its distributors with smartphones and recorded an initial image of every family receiving a water filter, as well as the date and time of donation, Global Positioning System (GPS) coordinates, and a cell phone number if available. An independent auditor will visit every six months to survey actual water use and calculate carbon credits.

12. Beyond the referenced written sources, I have augmented the description of this case with details from interviews with two of Vestergaard Frandsen's personnel in Lausanne, June 8, 2011.

In parallel with therapeutic food, portable water filtration takes on a key function of government, in this case the provision of water essential to health and hygiene. Like Plumpy'nut, the LifeStraw project deals with minimal states and requires little in the way of support systems. Eminently mobile and focused on survival needs, it displays somewhat greater ambitions to function as a substitute infrastructure. As with the logic of RUTF, however, saving lives remains of paramount importance. If the humanitarian conscience cannot depend on existing political or economic structures, then failure creates another market opportunity, cast in an ethical idiom. From the perspective of biopolitics, then, we again see both an expectation of life and an alternative approach to fostering it. Like Plumpy'nut, the LifeStraw imagines water in medical terms, albeit with a hygienic and preventative accent rather than a therapeutic one. The company's literature stresses the purity and safety of drinking water produced, not simply its existence. Again in parallel with RUTF, Vestergaard Frandsen presents a solution at the level of individuals and families rather than national populations or even communities. The LifeStraw Carbon for Water program deploys household filters, not a water system or even a village borehole well. In describing this approach to me, one company representative struck a pragmatic and realistic tone:

Let's be honest; we're not getting a municipal water system in rural Kenya anytime in the near future. Our project focuses more on quality not just delivery. . . . So we're creating new products all the time. All have a longer-term or medium-term vision of how the world should be. But for the company we define long-lasting as three years. That's not enough for development, but we tend to use the terms *humanitarianism* and *development* interchangeably. . . . We're a company that says let's do what we can.

The case of Vestergaard Frandsen suggests an alternative corporate model of liberal care for a population, one in which social concern might offer not simply a public relations gambit or marketing strategy but the cornerstone of a business plan. Describing social conscience as an obligation rather than a responsibility, the company website expresses faith that its work will "some day afford all humanity the basic human rights so many of us are currently without."

Case 4: Peepoople and Personal Sanitation

My final example continues the theme of corporate humanitarianism, while taking it to another minimalist extreme. Founded in 2006 by a Swedish professor of architecture and based in Stockholm, Peepoople lists a slim team of six in addition to an advisory board. If only tentatively present in the world and sporting an eye-opening name, the company grapples with a quite serious problem: the disposal of human waste in poor urban settings.¹³ Out of necessity, some slum dwellers resort to the “flying toilet” method of hurling waste in plastic bags, with undesirable social and environmental effects. Peepoople’s grand concept is breathtakingly simple—a better plastic bag. Deploying a double sack with the logo “Peepoo” boldly emblazoned on the outer layer, the design permits the user to avoid contact with the contents, reducing the risk of contamination. The inner layer includes a coating of urea, a common fertilizer that breaks down feces and urine into ammonia and carbonate to effectively neutralize pathogens. Constructed out of biodegradable plastic, the whole ensemble promises to transform itself into high-quality fertilizer two to four weeks after use, a potentially marketable commodity. Through this magic of design, the company’s website proudly concludes, “used bags represent a local resource instead of a contaminant.”¹⁴

Although driven by an ethical desire “to improve poor people’s health and quality of life by providing them with a hygienic, safe and dignified sanitation solution,” Peepoople’s approach remains openly commercial. Noting that plastic

13. For a more conceptual and more idealistic response, see the “dignity toilet” described by the Humanitarian International Design Organisation (2006). I thank Steven Robins for fertile discussion about this topic.

14. I take this and subsequent quotations from the Peepoople website: www.peepoople.com/ (accessed July 18, 2011).



Figure 4 Camilla Wirseen/Peepoople



Figure 5 The Peepoo process. Niklas Palmklint/Peepoople.

toilet bags are already a commodity in the Kibera area of Nairobi, Kenya (where they are available in both adult and child sizes), the company describes its invention in terms of product advantages:

Without sacrificing ergonomic function, the bag's design is adapted in every way so that it might be manufactured at as low a price as possible and sold to groups with the weakest purchasing power in the world. The Peepoo is designed to be used once, sitting, squatting or standing. If one uses the bag by holding it with only the hand, the thin gauze prevents all contact with the excrement. . . . It is simple to carry since it is small and weighs less than 10 grams. The only thing one needs to do is find a secluded spot where one can use it as a toilet. Peepoos are odor free for at least 24 hours after use and can thus be stored in the immediate environment. . . . The Peepoo cuts the traditional link between water and sanitation. A used Peepoo bag is clean to handle. It has become a waste product that neither smells nor is dirty to take care of and collect.

As a nascent entity, Peepoo is considerably smaller than Vestergaard Frandsen. Nonetheless, it likewise dreams large, citing the UN Millennium goals and expressing a similar faith in the merits of market research and rigorous evaluation. With support from the German government's development fund, Deutsche Gesellschaft für technische Zusammenarbeit (GTZ), its product has enjoyed two field tests in slum areas in Kenya and Bangladesh, as well as one in the emergency context of post-earthquake Haiti, sponsored by the British branch of Oxfam. In 2010 the company established a small manufactory in Nairobi to supply pilot projects, as well as launching a distribution network in Kibera, staffed by "local micro entrepreneur women." In addition to this sales team, the company established a collection system with drop points.

Like all business ventures, the Peepoo may or may not ultimately succeed as an enterprise. Opinions may vary as to how likely it will fit its intended market and find acceptance among targeted populations. Nonetheless, it has already elicited considerable response, unsurprising given that personal sanitation is not only a matter of medical and engineering concern but also a symbolically charged measure of pollution, dignity, and even civilization (Elias 1978 [1939]).¹⁵ The two field tests sponsored by GTZ offer a basis for comparison not simply between culturally Christian and Muslim contexts but also between populations distinguished as "wipers" and "washers." The official results yield modestly encouraging signs for the company. In Bangladesh, participants did not initially recognize the sack as a toilet and expressed reluctance about paying for sanitation as well as concerns about washing. After trial use, however, a majority saw definite advantages and would recommend Peepoo to others, describing it as "digital" in recognition of its relative modernity.¹⁶ Whether or not the product finds a foothold in daily practice, the concept itself emphatically asserts a claim to common humanity. As one of the company's representatives told the website Design Observer: "The name reflects the fact that we are all the same — we all do it, whether we are rich or poor" (quoted in Beck 2009). For the purposes of this discussion, I would simply note that the Peepoo substitutes not only for a missing sewer system but also for a basic latrine. The result proves as minimalistic as it is portable. A plastic bag expects very little in the way of a state or society beyond the household, implying a form of self-sufficiency. The collection vision might suggest the once prevalent occupation of "night soil" removal, but it does so in the name of individual and environmental hygiene, through the personal management of a basic life function.

15. For examples, see Lu 2010.

16. See the results of the 2009 study posted by GTZ 2009.

A Postsocial Norm of Life?

I have outlined a range of examples in this essay, in order to suggest that these varied objects constitute more than odd anomalies. Rather, they suggest two general themes: a moral norm of valuing human life and health that exceeds state sovereignty and a reconfigured sense of “social” problems along the cracks of the global economy.¹⁷ For the purposes of this suggestive analysis, I gloss them as elements in a loose ethical “regime of living” of sorts, understood in its most literal sense (Collier and Lakoff 2005). Working at the end of global health that is concerned more with addressing suffering, and less with biosecurity (Lakoff 2010), a variety of actors devise instruments to ensure the provision of life’s basic needs to populations on the margin of survival. They see this as a categorically good thing to do, participating in a wider humanitarian impulse to assist needy strangers rather than a utopian vision of social welfare.¹⁸

The four cases given here make up a heterogeneous ensemble, not the coordinated results of a plan. Nonetheless, they all respond to a common general problem: how to care for populations beyond the reach of state infrastructures for living. The DNDi addresses health directly, enrolling pharmaceutical expertise alongside elements of philanthropy to produce its drugs for populations defined by disease. By contrast, Plumpy’nut, LifeStraw, and the Peepoo operate on health indirectly, attending to basic functions of human bodies at a material level. They define their potential users through a more general condition of lack, the acutely inadequate provision of food, water, or sanitation. In the case of malnutrition, this involves specificity of medical measures; for water and toilets it remains a simple absence of infrastructure. All, however, suggest outlines of an afterlife for biopower, in which ethical expectations about human existence take specific material form.

Unlike the foundational scenario of Foucault’s historical analysis, here the management of life no longer falls to the state or even the open market. Rather, these technologies anticipate state failure and seek to provide a small-scale, self-contained alternative. For all that it may echo claims of basic human rights to health and basic existence, this alternative network mobilizes itself primarily through the expression of ethical concern rather than political demands or assertions of legal obligations. Consequently, its subjects may differ from the biologi-

17. I thank Tobias Rees for persistently advocating the need to think beyond given understandings of the social, particularly with regard to entities like the Gates Foundation (see Rees, n.d.).

18. For a sampling of ethical design, see Pilloton 2009 and Architecture for Humanity 2006; Rule 2008 offers a trenchant critique.

cal or therapeutic “citizens” of HIV/AIDS activism (e.g., Biehl 2007; Nguyen 2010). Instead, DNDi speaks in terms of “stakeholders” to refer to the assemblage of donors, partner organizations, and experts who help direct its trajectory and seeks “South to South” as well as “North to South” collaborations to best serve the needs of “patients.”¹⁹ Given the degree of structural neglect and the specificities of disease and medical response involved, the latter are largely people who, in Karl Marx’s infamous phrase (1975 [1852]), “must be represented.” Nutriset casts Plumpy’nut as a means of achieving “nutritional autonomy” on the part of communities and countries and advocates bringing production closer to the site of need (while retaining licensing rights). It promises “operational communication” to ensure that products are acceptable and take into account “the cultural characteristics of target populations.” Vestergaard Frandsen openly adapts the language of consumption to describe the users of its products as “customers,” deserving of both market research and customer support. In this sense, the LifeStraw extends market reason to encompass the poor (Prahald 2005). It does so in the name of “passion,” however, and is expressly not for sale in wealthy countries. Ethics is a conscious part of the business plan. At the same time, the conditions of possibility for this plan include a nonprofit milieu of international aid, even as the company seeks to extend beyond charity into carbon markets. The team at Peepoople, too, expresses hopes that their product will benefit the user, imagining their humble sack as a catalyst for economic and ecological change in slum settings. Their startup likewise benefits from aid resources, in this case evaluation by the German development fund.

The eventual policy judgment of this small ensemble remains in question and may not simply mirror any effects in practice (Mosse 2004). Nonetheless, their collective conceptual value, I suggest, is to raise the troubling political question of “what do we want?” in new and less certain ways (Ferguson 2009: 167). It is easy to oppose neoliberalism in general terms and important to call for the provision of services to those lacking them. There are good reasons to distrust corporations and doubt magic bullets. Yet it proves harder to denounce drug development, food provision, clean drinking water, or even a better plastic bag. These objects may not all inspire “love” in the manner that Marianne de Laet and Annemarie Mol describe the Zimbabwe Bush Pump, fluidly and publicly moving through communities in the name of national benefit (de Laet and Mol 2000). But given the continuing absence of better alternatives, such inventions have clearly grown

19. See relevant pages at www.dndi.org/ (accessed May 20, 2011).

desirable in the minds of those who express concern for distant others, however much they might complicate any larger critique.

In an era when both politics and capital increasingly appear to revolve around “life itself” (Rose 2007; Sunder Rajan 2006), we might also recognize the growing ethical weight of human health and survival. Expectations that people should live—even under extreme conditions of crisis, neglect, and poverty—now combine with doubts about the capacity of states to provide for their populations. The result is a set of technologies built around minimalist forms of care. If sometimes invested with grandiose hopes, this trend is unlikely to produce revolutionary change in the political tradition of answering the “social question” (Arendt 1990 [1961]; Rule 2008). Rather, a patchwork of expertise, philanthropy, state donations, and corporate investments seeks to save the present through auto-empowerment at a bodily level, whatever that might mean for the future. In this sense, its results remain modest and limited by design; derived from an overriding concern for human life, these are very much humanitarian goods.

References

- Architecture for Humanity, ed. 2006. *Design like you give a damn: Architectural responses to humanitarian crises*. New York: Metropolis Books.
- Arendt, Hannah. 1990 [1961]. *On revolution*. New York: Penguin.
- Barnett, Michael. 2011. *Empire of humanity: A history of humanitarianism*. Ithaca, N.Y.: Cornell University Press.
- Beck, Ernest. 2009. Peepoobag. Design Observer, September 18. changeobserver.designobserver.com/feature/peepoobag/10897.
- Biehl, João. 2007. *Will to live: AIDS therapies and the politics of survival*. Princeton, N.J.: Princeton University Press.
- Bornstein, Erica, and Peter Redfield, eds. 2011. *Forces of compassion: Humanitarianism between ethics and politics*. Santa Fe, N.M.: School of Advanced Research Press.
- Bradol, Jean-Hervé. 2006. A new approach towards malnutrition. *Messages* 141 (July): 1–5.
- Clarke, John. 2004. Dissolving the public realm? The logics and limits of neoliberalism. *Journal of Public Policy* 33, no. 1: 27–48.
- Collier, Stephen J. 2011. *Post-Soviet social: Neoliberalism, social modernity, biopolitics*. Princeton, N.J.: Princeton University Press.
- Collier, Stephen J., and Andrew Lakoff. 2005. On regimes of living. In *Global*

- assemblages: Technology, politics, and ethics as anthropological problems*, edited by Aihwa Ong and Stephen J. Collier. Malden, Mass.: Blackwell.
- Cross, Jamie, and Alice Street. 2009. Anthropology at the bottom of the pyramid. *Anthropology Today* 25, no. 4: 4–9.
- De Laet, Marianne, and Annemarie Mol. 2000. The Zimbabwe Bush Pump: Mechanics of a fluid technology. *Social Studies of Science* 30, no. 2: 225–63.
- De Waal, Alex. 1997. *Famine crimes: Politics and the disaster relief industry in Africa*. Oxford: James Currey.
- DNDi (Drugs for Neglected Diseases Initiative). 2009. *2008–2009 annual report*. Geneva: DNDi. www.dndi.org/images/stories/pdf_aboutDNDi/ar2009.pdf.
- Dolan, Catherine, and Dinah Rajak. 2011. Introduction: Ethnographies of corporate ethicizing. *Focaal—Journal of Global and Historical Anthropology*, no. 60: 3–8.
- Elias, Norbert. 1978 [1939]. *The civilizing process*. Vol. 1, *The history of manners*. New York: Pantheon.
- Epstein, Steven. 1996. *Impure science: AIDS, activism, and the politics of knowledge*. Berkeley: University of California Press.
- Fassin, Didier. 2007. Humanitarianism as a politics of life. *Public Culture* 19, no. 3: 499–520.
- . 2009. Another politics of life is possible. *Theory, Culture and Society* 26, no. 5: 44–60.
- Fassin, Didier, and Mariella Pandolfi, eds. 2010. *Contemporary states of emergency: The politics of military and humanitarian interventions*. New York: Zone Books.
- Feldman, Ilana, and Miriam Ticktin, eds. 2010. *In the name of humanity: The government of threat and care*. Durham, N.C.: Duke University Press.
- Ferguson, James. 1990. *The anti-politics machine: “Development,” depoliticization, and bureaucratic power in Lesotho*. Cambridge: Cambridge University Press.
- . 2009. The uses of neoliberalism. *Antipode* 41, no. S1: 166–84.
- Fisher, William F. 1997. Doing good? The politics and antipolitics of NGO practices. *Annual Review of Anthropology* 26, no. 1: 439–64.
- Foucault, Michel. 2003. “*Society must be defended*”: *Lectures at the Collège de France, 1975–1976*. Edited by Mauro Bertani and Alessandro Fontana, translated by David Macey. New York: Picador.
- . 2004 [1974]. The crisis of medicine or the crisis of antimedicine? Trans-

- lated by Edgar C. Knowlton Jr. and Clare O'Farrell. *Foucault Studies*, no. 1: 5–19.
- . 2007. *Security, territory, population: Lectures at the Collège de France, 1977–1978*. Edited by Michel Senellart, translated by Graham Burchell. New York: Picador.
- . 2008. *The birth of biopolitics: Lectures at the Collège de France, 1978–1979*. Edited by Michel Senellart, translated by Graham Burchell. New York: Picador.
- Freedman, Michael. 2005. A fine mesh. *Forbes*, December 26. www.forbes.com/forbes/2005/1226/071.html.
- Fund for Peace. 2011. The failed states index 2011. *Foreign Policy*, www.foreignpolicy.com/failedstates.
- Greene, Jeremy. 2011. Making medicines essential: The emergent centrality of pharmaceuticals in global health. *BioSocieties* 6, no. 1: 10–33.
- GTZ (Deutsche Gesellschaft für technische Zusammenarbeit). 2009. *Results of a medium-scale trial of single-use, self-sanitising toilet bags in poor rural settlements in Bangladesh*. September. Dhaka: GTZ—Office Dhaka. www.gtz.de/en/dokumente/gtz2010-peepoo-bags-bangladesh-trial.pdf.
- Humanitarian International Design Organisation. 2006. Sanitary facilities for Africa. www.humanidesign.org/contesttoilets1.html.
- Lakoff, Andrew. 2010. Two regimes of global health. *Humanity: An International Journal of Human Rights, Humanitarianism, and Development* 1, no. 1: 59–79.
- Lu, Shijie. 2010. What are people saying about the Peepoo? Acumen Fund (blog), March 4. community.acumenfund.org/forum/topics/what-are-people-saying-about?commentId=3957399%3AComment%3A24328.
- Manna Energy. 2011. Case study: Manna in Kenya. www.mannaenergy.com/projects-kenya.php.
- Marx, Karl. 1975 [1852]. *The eighteenth Brumaire of Louis Bonaparte*. New York: International Publishers.
- McNeil, Donald. 2009. A company prospers by saving poor people's lives. *New York Times*, February 2. www.nytimes.com/2009/02/03/health/research/03prof.html.
- Mosse, David. 2004. *Cultivating development: An ethnography of aid policy and practice*. London: Pluto.
- Motavalli, Jim. 2009. Let them eat Plumpy'Nut. *Foreign Policy*, October 8. www.foreignpolicy.com/articles/2009/10/08/let_them_eat_plumpynut.

- MSF (Médecins Sans Frontières). 2009a. *Activity report 2009*. Geneva: MSF. www.msf-me.org/en/resource/resources-and-publications/special-reports-1/msf-activity-report-2009.html.
- . 2009b. “Malnutrition: How Much Is Being Spent.” *MSF Campaign for Access to Essential Medicines*, www.msfaccess.org/our-work/malnutrition/article/898.
- Nguyen, Vinh-Kim. 2010. *The republic of therapy: Triage and sovereignty in West Africa’s time of AIDS*. Durham, N.C.: Duke University Press.
- Osborne, Stephen P. ed. 2002. *Public-private partnerships: Theory and practice in international perspective*. London: Routledge.
- Petryna, Adriana, Andrew Lakoff, and Arthur Kleinman. 2006. *Global pharmaceuticals: Ethics, markets, practices*. Durham, N.C.: Duke University Press.
- Pilloton, Emily. 2009. *Design revolution: One hundred products that are changing people’s lives*. London: Thames and Hudson.
- Prahalad, C. K. 2005. *The fortune at the bottom of the pyramid: Eradicating poverty through profits*. Upper Saddle River, N.J.: Wharton School Publishing.
- Rabinow, Paul, and Nikolas Rose. 2006. Biopower today. *BioSocieties* 1, no. 2: 195–217.
- Rankin, Johanna. 2005. A new frontier for humanitarianism? Médecins Sans Frontières responds to neglected diseases. Honors thesis, University of North Carolina at Chapel Hill.
- Redfield, Peter. 2008. Doctors Without Borders and the moral economy of pharmaceuticals. In *Human rights in crisis*, edited by Alice Bullard. Aldershot, UK: Ashgate.
- Rees, Tobias. n.d. A brief history of the social and the vital (being also an account of global health). Department of Social Studies of Medicine, McGill University.
- Rees, Tobias, and Carlo Caduff. n.d. What was biopower? And what form(s)—if any—has it assumed or does it assume today? Department of Anthropology, University of Zurich.
- Rice, Andrew. 2010. The peanut solution. *New York Times Magazine*, September 2, MM36.
- Robins, Steven. 2010. *From revolution to rights in South Africa: Social movements, NGOs, and popular politics after apartheid*. Oxford: James Currey.
- Rose, Nikolas. 2007. *The politics of life itself: Biomedicine, power, and subjectivity in the twenty-first century*. Princeton, N.J.: Princeton University Press.

Public Culture

- Rule, Alix. 2008. The revolution will not be designed. *In These Times*, January 11. www.inthesetimes.com/article/3464/the_revolution_will_not_be_designed.
- Sachs, Jeffrey, Jessica Fanzo, and Sonia Sachs. 2010. Saying “nuts” to hunger. *The Huffington Post*, September 6. www.huffingtonpost.com/jeffrey-sachs/saying-nuts-to-hunger_b_706798.html.
- Schwittay, Anke. 2011. The marketization of poverty. *Current Anthropology* 52, no. S3: S71–S82.
- Sunder Rajan, Kaushik. 2006. *Biocapital: The constitution of postgenomic life*. Durham, N.C.: Duke University Press.
- Tectonidis, Milton. 2006. Acute malnutrition: A highly prevalent, frequently fatal, imminently treatable, neglected disease. In *MSF Activity Report 2005–2006*. www.doctorswithoutborders.org/publications/ar/report.cfm?id=3228.
- Terry, Fiona. 2002. *Condemned to repeat? The paradox of humanitarian action*. Ithaca, N.Y.: Cornell University Press.
- Welker, Marina, Damani J. Partridge, and Rebecca Hardin. 2011. Corporate lives: New perspectives on the social life of the corporate form. *Current Anthropology* 52, no. S3: S3–S16.
- Willoughby, Kelvin W. 1990. *Technology choice: A critique of the appropriate technology movement*. Boulder, Colo.: Westview.
- Wilson, Richard, and Richard Brown, eds. 2009. *Humanitarianism and suffering: The mobilization of empathy*. Cambridge: Cambridge University Press.