

A photograph of a person standing on a tall, narrow wooden ladder, reaching up to work on a power line. The person is silhouetted against a bright, cloudy sky. The ladder is made of dark wood and extends from the bottom left towards the center. A power line runs diagonally across the upper right portion of the image.

INFRASTRUCTURE

AND INGENUITY

IN POSTSOCIALIST TANZANIA

the city
electric

Michael Degani

THE CITY

ELECTRIC

BUY

DUKE

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PRESS**

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TO NATALIE

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Leo kuna maandamano ya wizi wanataka waongezewe siku, badala ya siku za mwizi 40 sasa wanataka za mwizi ziwe 60 watumie sms wezi wezako 20, kwangu ilikosewa kutumwa na kwasababu inakuhusu nikaona ujumbe usipotee bure ni bora nikutumie mhusika

Today the thieves are holding a protest to demand that their days be increased from forty to sixty, and any thief should send this text to twenty of his colleagues to let them know. (This was mistakenly delivered to me but since it concerns you I figured I'd pass it along.)

—SMS MESSAGE

introduction

ETHNOGRAPHY OF(F) THE GRID

One afternoon as I was walking in Dar es Salaam, my friend Simon, an electrical contractor, forwarded me the text message above. This was the last era before smart phones in Dar es Salaam became ubiquitous, and I laughed as I read the chain letter on my sturdy Nokia X2. I had just gotten off a crowded *daladala* minibus and was trudging my way over to the *kijiwe* (grindstone), a roadside stretch of dirt where he and other contractors and electricians waited for work and shot the breeze. Dappled by the shade of a large tree, the spot attracted all manner of vendors: young kids bearing platters of *korosho* groundnuts and loosie cigarettes; farmers in sandals leaning on carts of sugarcane and cassava; women carrying buckets of oranges and mangos at their hips. At its center, a woman named Henrietta presided over a rickety wooden stand, selling phone vouchers and a dozen different English and Kiswahili dailies. Cars and pedestrians formed a steady stream in front of us, with a small tributary veering off toward the glass doors across the street—the entrance to a municipal branch of the Tanzania Electric Supply Company Limited, or Tanesco.

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MAP 1.1 Map of Dar es Salaam.

For Simon and his colleagues, dressed in collared shirts and dusty business shoes, the *kijiwe* offered a line of sight onto customers entering and exiting the building over the course of the day. Some looked beleaguered, perhaps angry about bills or broken equipment. Others clutched telltale oversized green folders holding applications for new “service lines” that would connect them to the grid. Should they cross the street, among Simon and his colleagues, they would find a pool of “drawers” (*vichoraji*) who, for a modest price, would provide properly formatted diagrams of their household wiring, endorsed by the stamp of a licensed contractor’s seal. More conspiratorially, they might find electricians willing to repair or otherwise modify their existing service lines. Occasionally, a Tanesco employee would walk over to confer with a

particular contractor, perhaps surreptitiously handing him a stack of green folders. The *kijiwe* was thus a kind of catchment area, a transitional zone where Tanesco's official operations shaded into the bustling informal economy that had grown up around it.

Such peripheral zones could be found thriving in the shadows of government buildings across the city. Along with some Tanesco branches, Revenue Authority and Immigration offices put up signs warning visitors to *Epuka Vishoka*, "avoid hatchets"—the popular term for agents and touts who falsely promised shortcuts for bureaucratic procedures. Officially, *vishoka* were considered thieves or parasites, figures to be avoided. There was a certain common sense to this. Over the course of my fieldwork, residents relayed numerous stories of being tricked out of their money (or foiling the would-be trickster). And yet *vishoka* were tolerated, even sought out. They provided valuable fixes to bureaucratic systems that were overlong, full of delays and, it was often alleged, full of their own scams. While not officially of the city's public infrastructure, *vishoka* were undeniably in it.

Wasn't Simon's text message saying as much? The text was a playful riff on the Kiswahili proverb *Siku za mwizi ni arboraini* (a thief gets forty days). "Forty" here is less a literal number than a period of spiritual trial and purification (e.g., forty days of mourning, forty days and nights in the wilderness). To say a thief gets "forty days" means that while he may be living the high life now, he can't outrun justice. From the standpoint of eternity, he has already been caught—his days are numbered. But the joke takes this stuffy piety and turns it into something more pragmatic and workaday. By demanding sixty days, Dar es Salaam's thieves are replacing a qualitative *category* of time (a thief *will always* get caught, but it might be after three days, seventy days, or in the afterlife) for a quantitative *length* of time. They reframe theft not as a wild antisocial eruption but a kind of reasonable work that they are entitled to pursue and whose terms may be negotiated.

With their blurring of theft and work, *vishoka* are symptomatic of the ambiguous state of the power sector in Tanzania and the broader political-economic shifts that have shaped it. Like many other developing nations in the post-Cold War 1990s, the once-socialist Tanzanian government embraced a host of neoliberal reforms designed to improve the efficiency and performance of its public institutions, including an ambitious plan to privatize its national power monopoly, Tanesco. But the situation quickly grew complicated as a series of political dealings and scandals derailed full privatization. Though Tanesco has pursued a number of austerity measures such as tariff increases and staff retrenchments, these policies have not translated to reinvestment

in its degraded transmission and distribution network or its generation capacity. The result is that since the late 1990s, electricity has become more expensive and less reliable at the very moment that its practical and symbolic importance for life has increased—especially in Dar es Salaam, where nearly 80 percent of all connections to the national grid are concentrated. With economic liberalization came a flood of cheap electric and electronic imports—televisions, phones, refrigerators, fans, computers, blenders, and all manner of light industrial machinery—but the power to run them was supplied by an old, socialist-style parastatal entity seized with a new commercial spirit of cost recovery. A darkened TV screen, a warm fridge, a computer printout receipt for a service line never installed; “expectations of modernity” (Ferguson 1999) in the 2000s were not so much dashed as both renewed and deferred. *Vishoka* expressed this gap between ideal and reality—and have helped to bridge it.

Here, then, in the wake of a morally charged African socialism, this book explores how struggles over electricity became a key site for urban Tanzanians to enact, experience, and debate their social contract with the state. However, by “contract,” I mean something more dynamic than this term usually implies.¹ For as power flows out through transmission and distribution lines to a bristling mass of consumers, and as payment flows back to TanESCO, a communicative circuit is formed, one that embodies a shared project of nation-building (*kujenga taifa*). And yet this circuit is fragile. Service interruptions, high tariffs, and aging materials all put pressure on the downward flow of current. In turn, consumer theft, nonpayment, or vandalism both accommodate these shifts and put pressure on the reciprocal up-flow of currency. Some of these perturbations are forgivably minor. Others reach a level of intensity that calls into question the reciprocal binding they presuppose. Indeed, at certain flashpoints, network breakdown threatens to erupt into arguments, violence, protests, or even regime change. This book zooms in on these moments to show how infrastructure becomes a site where the collective ambitions and commitments of an African postcolonial nation are both made and unmade, naturalized or suspended.

To do so, I turn to a tradition of anthropological work on money and exchange, as well as a broadly posthumanist style of thinking about networks and ecologies. The figure of the parasite will be important here, spanning as it does both Afro-socialist ideas about socioeconomic exploitation (Nyerere 1968; Brennan 2006a), as well as Michel Serres’s cybernetic-thermodynamic insights into systems, signs, and signals (Serres 1982; Kockelman 2017). This redoubled parasite might be thought of as an exercise in “convivial scholarship” (Nyamnjoh 2017, 267), a lateral concept that, without erasing their differences,

bridges certain “Western” and “African” intellectual traditions and highlights their elective affinities. As I elaborate, Serres’s theory is built from the fables and picaresques of French agrarian life—a vernacular world of country and city mice feasting on scraps, of hares stealing into farmers’ gardens.² Kiswahili epithets like *kupe* (tick) and *mnyonyaji* (a “sucker” of energy) are likewise rooted in a regional socioecological imaginary of collective resources diverted to selfish ends, of ambiguous actors who are *in* yet not properly *of* the social body (Ngonyani 2002; Langwick 2007; Scotton 1965). Invoking these vernacular metaphors, and fusing them with socialist definitions of exploitation, the Tanzanian state vigorously curtailed the ability of party cadres and government bureaucrats to accumulate personal wealth, and policed ordinary people so that they would not stray into laziness, living off the vital flows—the sweat (*jasho*) or blood (*damu*)—of others (Brennan 2006a). Against visions of the post–Cold War era as a perpetually self-regulating End of History, I show how these old dramas still played out. The 2000s saw the purging of “parasitical” leaders who collected rents on national power generation and funneled them to their own private patronage networks, as well as “free-riding” consumers who stole power or didn’t pay their debts. In some ways these social dramas were shaped by durable dispositions inculcated by the socialist period.

At the same time, these dramas of purification belied all sorts of interesting compromises, in which “parasites” were not just enemies to be expelled but uninvited guests to be (partially) tolerated. While a number of entrepreneurial politicians and civil servants exploited Tanesco’s contracts with private companies for fuel, power, and supplies, only in the most egregious instances of state capture were any subject to anticorruption crackdowns. Meanwhile, as volatility and expense ramified down to the street level of the network, urban residents have contrived arrangements that deliver them power through theft or unofficial repairs. Tanesco responds by dispatching inspection teams—some of whom I accompanied—to monitor service lines and disconnect those that had been tampered with or had unsustainable debt. Patrols could unravel into fights with Tanesco consumers over the rights and responsibilities of citizenship in a postcolonial nation. But they also marked out spaces of tolerance that allowed some measure of unofficial or illegal diversion to continue.

In other words, this book will show the proliferation of “parasites” indexed growing misalignments between the overarching *social form* of the circuit and the *vital energy* that substantiated it (Mazzarella 2017)—that is, between the shared pact linking rulers and ruled and the distribution of material resources that made that pact plausible and efficacious, renewing citizen participation in it. Residents could choose to “play by the rules,” enduring price increases and

scarcity, thereby hewing to the form at the cost of its substance. Alternatively, they could acquire the substance in full—say by pirating current—but at the risk of contravening the very grounds by which that substance was channeled. As neither option was particularly appealing or workable for very long, politicians, residents, and electricians played with the alignment of energy and form—of electricity and the political compact its proper flow indexed—albeit within certain thresholds. They arrived at moral distinctions—between rent and plunder, rationing and “fake” rationing, debt and theft—that allowed some strain of electricity’s economy of circulation while still preserving its basic integrity. These are exercises in *modal reasoning* (Degani 2017), and I will suggest they show us what it takes—and what it means—to sustain not just infrastructure but collective life more broadly under inauspicious conditions.

My analysis is based on approximately eighteen months of fieldwork in Dar es Salaam between 2011 and 2012, bounded by six months of preliminary research between 2009 and 2010, and six months of follow up between 2014 and 2018. This included time with electricians, contractors, consumers, Tanesco workers, managers, and bureaucrats. I utilized interviews, surveys, participant-observation, and archival and discourse analysis. Unsurprisingly enough, many of this book’s insights and descriptions only came about after a long period of building trust and affection with different people involved in electricity’s circulation. However, fieldwork also presented ethical challenges, particularly during utility patrols when residents pleaded, argued, cursed, and sometimes attempted to bribe the inspectors that cut off their power. There are colonial inflections to be found in almost any ethnographic project set in Africa (Assad 2006; Mafeje 1997), and the perverse privilege of witnessing the “infrastructural violence” (Rodgers and O’Neill 2012) of state disconnection brought those of my own to the fore—a privilege I work to unpack and historicize. In the end, rather than presume to be able to conduct fieldwork in a situation free of power relations, I too undertook a modal approach, defined by a threshold that I would not cross: namely, the active incrimination of anyone involved in power theft—inside Tanesco offices or out. Short of this, as I’ll describe in the forthcoming chapters, I simply tried to move with situations in ways that preserved the project’s ethical backbone.

My fieldwork was also enriched by interlocutors with no particular (or even literal) connection to electricity, but who connected me to the wider weave of urban life. Special mention should be made of Ally, who will appear in the pages ahead and whose friendship is one of the most enduring gifts of my time in Dar es Salaam. After living with his family and spending countless hours hanging out at his taxi stand, smoking cigarettes and drinking coffee, I con-

sider him kin. Ally's biography, which spans a fraught Arab-African childhood, imprisonment for selling contraband cigarettes, work in a Shinyanga mine, a crippling leg injury, and a troubled but resilient marriage in Dar es Salaam, could serve as a Tanzanian outsider epic. For now I have simply cast him as an occasional, often dryly funny commentator on Dar es Salaam, a combination of Greek chorus and Muchona the Hornet (Turner 1967).

Over the course of four main chapters, *The City Electric* takes up electricity's economy of circulation as an ethnographic object and method. Roughly speaking, it "follows the circuit" (Marcus 1995) of current and currency to reveal distinctly postsocialist modes of power (1) generation, (2) transmission and distribution, (3) consumption and payment, and (4) maintenance/extension. Each chapter shows how, by degrees, actors divert, suspend, or restore—that is, modify—that stretch of the circuit. The conceptual upshot is to foreground the power "grid" as a living relation that waxes and wanes across a larger national ecology. We see how the pressures of multiparty competition strained power generation; how the resulting power cuts fed the suffering and resentment of an urban public; how attempts to bill consumers faltered on the illegibility of urban landscapes, and how Tanesco's own institutional thinning created a population of unofficial *vishoka* brokers. Like concepts, infrastructures don't have firm boundaries (Das 2015, 59; Star 1999; Larkin 2013); it is impossible to definitively mark where, say, the meter ends and the household begins, or where the power plant shades into the party. Caught within and constituted through these enmeshments, Tanzanians worked to distribute their crisscrossing forces and pressures so that, amidst the continuous unfolding of its politics, something like a national project might hold.

histories of/as infrastructure

An ethnography of infrastructural modification opens up useful perspectives onto the historical trajectories of neoliberalism, postsocialism, and African urban life. First, it offers a counterpoint to the many otherwise persuasive accounts of "Africa after the Cold War" (Piot 2010) whose cumulative effect is to emphasize a certain kind of formlessness.³ At its most extreme we have the Mano River War that spanned Sierra Leone and Liberia, in which socio-moral distinctions between soldier and rebel, miner and fighter, cities and barracks—even war and peace—all seemed to dissolve into what Danny Hoffman, citing Gilles Deleuze and Felix Guattari, calls "production in general and without distinction" (2011, 104). Even peacetime megacities are likewise imagined as sites of constant flux and improvisation. Fantasies of evangelical

ascension, transnational migration, or apocalyptic reckoning express the hollowing out of any meaningful trust in the “near future” (Guyer 2007), folding the End Times back onto the present to create a kind of eternal, protean now (De Boeck 2005; Melly 2017; Ferguson 2005a).

And yet from the vantage of the 2010s, the continuities—or at least subtler transformations—of continental experience are worth considering. If the liberal-democratic fantasies of the Washington Consensus have not come to pass, neither have the apocalyptic scenarios of unfettered capitalist dispossession—at least not everywhere. As James Ferguson has pointed out (2015), social welfare policies have only grown in South Africa, while strong state-driven developmentalist models (Mains 2019) across the continent suggest the emergence of a “Beijing Consensus” (Aminzade 2013, 268–72). In laying out these countertrends, the point is not to substitute one set of emphases for another, but rather to look closely at the complex imbrications of states, markets, aid, sovereignty, and neoliberalism (McKay 2017; Chalfin 2010), and the ways they resonate or not with popular aspirations or expectations of collective life.

It may be that formerly socialist African states provide an especially pronounced case where the sense of a shared social project lingers against the more centrifugal forces of competition and capture, even as in other moments those same forces are valued as spaces of entrepreneurial invention (Pitcher and Askew 2006). Mike McGovern (2017) has argued that states such as Guinea and Tanzania managed to inculcate a set of “durable dispositions” that provide ideals with which to critique capitalist accumulation and even resist the civil conflict it stokes. Thus, whereas Sierra Leone and Liberia ramped up into a regional war tied to control of natural resources, Guineans managed to avoid the export of that war across their borders. Similarly, many Tanzanians understand their own socialist path to have allowed them to avoid the rougher politics of their East African neighbors Uganda and Kenya, to say nothing of Rwanda or the Democratic Republic of Congo—at least for a time. This peace admittedly threatened to crack during the 2015–2021 presidency of John Magufuli, which saw a partial resurgence of socialist governance but also unprecedented violence and censorship—a development I discuss in the conclusion.

Socialism, as the saying goes, must be built. But how? McGovern emphasizes that in Guinea such durable dispositions were sedimented through a range of techniques: the iconoclastic destruction of indigenous paraphernalia, the reciprocal folklorization of “traditional” culture, and the widespread transmission of a revolutionary lexicon that wove itself into everyday speech and gesture (see also Yurchak 2006). Tanzania bore all of these features, including a particularly well-developed discourse on parasitism. This book explores

how such an inheritance exerts a kind of drag on the present, frustrating the neoliberal tendency to depoliticize and “demoralize” the compact between state and citizen (Ferguson 2006, 71). And it does so by exploring a specific kind of technology by which this inheritance was sedimented: infrastructure.

“Study a city and neglect its sewers and power supplies (as many have), and you miss essential aspects of distributional justice and planning power” (Star 1999, 379). From pipes to canals to housing projects, infrastructure deeply influences the contours and textures of political community, and this makes it an incredibly rich site of ethnographic inquiry (Anand, Gupta, and Appel 2018; von Schnitzler 2016; Carse 2014; Fennell 2015). While the term infrastructure has no precise definition, it is generally associated with large sociotechnical systems whose scale and complexity embody decades and even centuries-long political dispensations (Carse 2016; Edwards 2003). The long modernizing century from roughly 1850 to 1960 saw the harnessing of massive amounts of force and energy into networked “spaces of flow” (Heidenreich 2009). This “integrated ideal” (Graham and Marvin 2001) presupposed a certain high modernist confidence in a rationally administered mass society and congealed an imperial fantasy of uninterrupted growth that only belatedly and briefly (ca. 1945–1979) included postcolonial African nations (see, e.g., Hoffman 2017).

The historical ascendance of neoliberalism is often thought to mark a radical disintegration of this ideal. By the post-Cold War 1990s, the ostensible “privatization of everything” (Watts 1994) was driven by an end-of-history triumphalism most fully realized in sales of state-owned assets such as factories and railroads, but also in the marketization of public provisioning systems such as heat and water. For critics, this seemed to herald the “death of the social” (Rose 1996), in which long-term commitments to universal service provision “splinter” (Graham and Marvin 2001) into variegated arrangements with specific communities and individuals who can pay or mobilize clientelist pressure as necessary (Anand 2017).

Ethnographic analyses, however, reveal a broader picture of change, continuity, and contestation. First, waves of reform often broke on the intransigence of infrastructural systems and their users. In the former Soviet Union, municipal heat remained flowing through industrial cities, not only due to “social norms in actors’ heads” (Collier 2011, 213), but because the physical structure of its centralized system was designed to heat entire apartment floors at a go, making shutoffs of individual flats for nonpayment difficult. And even where technical systems have been redesigned, affective dispositions nourished by older forms often remain encoded, stubbornly, in bodily habitus. After relocating to mixed-income apartment complexes, for example, residents of

Chicago's South Side still longed for and sometimes cleverly rigged up systems to approximate the luxuriant "project heat" of their former public housing high-rises (Fennel 2015). Various projects to privatize or otherwise enervate public goods have in fact foundered on the dispositions embodied in and distributed across those systems, because what is at stake is not just vital flows but the kinds of social persons and worlds those flows create.⁴

More complicated still, as Stephen Collier (2011) has emphasized, is the fact that not all neoliberal reformers rejected the welfare presumptions embedded in public systems, but rather sought to make them more efficient. After all, many public systems in both the Eastern bloc and Global South had suffered fiscal crises and operational inefficiencies since the late 1970s and 1980s. Rather than gut or privatize them wholesale, reformers sought to improve them by incorporating certain elements of competition, price response, and so forth. This basically centrist tradition of neoliberal thought on regulation—what in chapter 1 I describe as a "politics of the air conditioner"—seeks to artfully tighten, loosen, or otherwise "nudge" individual users by reconfiguring an institution's "choice architecture" (Thaler and Sunstein 2008). By expanding the degrees of freedom at certain junctures and pruning them at others, one can "optimize" the social good (Özden-Schilling 2021).

Like such works, the chapters that follow open the black box of "neoliberalism" and show not only how it has unfolded on the ground, but how it sometimes surprisingly resonates with the social state it supposedly displaces. Power sector reform was a complex and contested assortment of specific policies, some reviled and some quite popular. When a private South African management company operated TanESCO for four years in 2002–2006, it unexpectedly won a high degree of approval by cutting off government ministries who weren't paying their power bills. This kind of "neoliberal populism" (Aminzade 2013, 256) highlighted the ways in which market reforms and good governance could converge with socialist discourses of morality and public service (Sanders 2008).⁵

Ultimately then, this book is not concerned to adjudicate the degree to which "neoliberalism" was unilaterally imposed or resisted. Its fundamental axis is not between state and market but between rulers and ruled, wealthy and poor, and the ways each manage to "take a cut" of the flows that tie them together in a collective ecology of circulation. As such, it seeks to put the anthropology of infrastructure in conversation with a range of scholarship that, one way or another, is concerned with the compromises and accommodations of "conviviality" (Nyamnjoh 2002, 2014), of "living together" (De Boeck and Baloji 2016). How do societies forge loyalty, govern exchange, or

legitimate coercion when their founding premises seem less and less plausible (Mbembe 2001, 77)? How can the infelicities that beset the performance of any social relation be accommodated in ways such that its basic form holds? We might sense in these questions an ethical shading that leads to concepts of being-with-others (Das 2014), or to more politicized frameworks involving moral economies (Scott 1977) and public goods (Bear and Mathur 2015), or to the metaphysics of gift and sacrifice (Viveiros de Castro 2014). In any case, fifty years after independence, these are the questions posed by Tanzanians' everyday experiences with cryptic blackouts and private generators, unofficial repairs and surreptitious connections.

Finally, one might also sense in these questions a disciplinary bent that draws out a latent structuralism within the infrastructural (Rutherford 2016; cf. Pandian 2014). With its healthy suspicion of closure, a broadly actor network-inspired branch of infrastructure studies has cultivated an appetite for tracing out the proliferation of more-than-human assemblages (Latour 2008; Jensen and Morita 2017; Bennet 2005). These works emphasize that infrastructures are the marshaling of an unruly network of heterogeneous species and actants, and are thus constantly subject to "parasitic" resistance and interference, addition and "accretion" (Anand 2015). Despite some philosophical conundrums,⁶ there is an important antisystemic thrust to this orientation, pointing as it does to diachrony, actuality, and what Charles Pierce called the "brute" secondness of events (see Kohn 2013, 91), and I have retained much inspiration from it. But as I elaborate below, a focus on modification takes a step back to ask about the *logic* of parasitic variation, of what *counts* as an intolerable breakdown or a sufficient repair in relation to a whole, however projected or virtual. Marveling at the Zimbabwe bush pump, its "fluid" ability to span shifting configurations of *E. coli*, materials, and users, Marianne de Laet and Annemarie Mol observe that "even if many of its elements are transformed, the whole does not necessarily fall apart" (2000, 247). How does one get a feel for this kind of emergent "whole" across variation? In the context of a power grid, I'll suggest, it will entail seeing infrastructure as a nested hierarchy of surfaces and depths, short-term and long-term cycles.

the gift of infrastructure

At any given moment, 900–1,500 megawatts of Tanzanian-generated electricity is dispersed to approximately 900,000 separate residences and businesses. Consumers send money back through digital prepaid or analog postpaid metering systems, and these payments are recorded at local branch offices

and, ultimately, at TanESCO's national headquarters. In short, electrical current moves "down" to the decentralized, street-level branches of the network as currency moves "up" to the centralized offices (*ofisini*). And because electricity cannot be easily stored, this metabolic exchange must proceed indefinitely in an even, balanced rhythm. This rhythm is of course subject to multiple syncopations. Engineers work to redistribute supply to times and areas of high demand, while the state often subsidizes generation and maintenance costs for utilities that cannot sustain themselves on revenue collection alone. The basic move is to keep the movement of current and currency in continuous, reciprocal exchange, even if it must partially gamble on future repayment to do so.

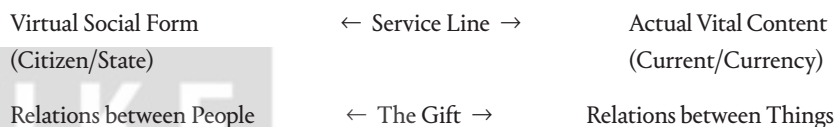
One of the founding texts of Western anthropology was concerned with a continuous circuit of exchange: Bronislaw Malinowski's ([1922] 2002) analysis of the Kula Ring, in which armbands and bracelets flow in countercyclical directions across the Trobriand Islands, carving out channels through which ordinary sorts of barter can take place. This inaugurated "an anthropology of the gift" that moved through French ethnology (Mauss ([1925] 2016; Lévi-Strauss 1969; Lacan [1966] 2007; Bourdieu 1977) and, perhaps surprisingly, given the well-known animus of science and technology studies toward this tradition (Kockelman 2017, 47), forms the "genealogical backdrop to [Bruno] Latour's Network Theory" (Povinelli 201b, 5). As gifts like Kula shells moved out into the world and then returned (whether in that same form or some other), they became reflexive media of sociality, creating a horizon of relatedness beyond that particular instant.⁷ At its purest, speculates Jacques Lacan in his structuralist period, a gift is *nothing but* a token of that social relation, its superfluousness the point ([1966] 2007, 273; see also Žižek 2006, 11–12). Decorative armbands and shells may be "merely symbolic," but as such they have a ground-clearing efficacy: they are objects whose particular exchange performatively inaugurates the ability of two (or more) parties to exchange in general.

The structuralist linguist Roman Jakobson (1960) arrived at a parallel insight with the notion of phatic communication: acts that open, close, or otherwise configure channels through which we can exchange more substantive kinds of messages. The rub is that "making contact" is never merely technical, but is rather a symbolic exchange in its own right, freighted with social implication.⁸ Jakobson notably drew inspiration from what Malinowski called "phatic communion" ([1923] 1972): "empty" formalities such as polite greetings or chatting about the weather that serve to bond the speakers more than convey referential information.⁹ In a marvelous essay, Julia Elyachar (2010) analyzes the daily "phatic labor" of Cairene women who visit each other for tea to exchange pleasantries. These courtesies nourish relations that

can deliver actual goods (favors, information, a word to the right person in government) should the occasion arise. Such visits are indeed a kind of maintenance work, ritually lingering upon and attendant to the relation as such. The homology to conventional infrastructure should be clear: pipes and wires do not always transmit water, power, or data—they are rather the conditions of possibility for those vital flows, the delimiting ground against which a substance/figure can emerge.

In Dar es Salaam, extending a service line is both a gift and a phatic communiqué. In an important sense it is “empty.” Its installation does not determine how often or how much power a given household will consume. It simply opens a channel, elevating the household into a “long-term transactional order” with the state power company (Parry and Bloch 1989). As Tanja Winther aptly put it in her ethnography of electrification of Zanzibar, “the costly and solid physical connection between consumer and utility binds the two parties together like spouses in marriage: tied to each other through the good times and the bad times and with a high cost in the case of separation” (2008, 40).¹⁰ And like any shared marital asset or communicative channel, a service line has its proscriptive constraints. While residents must pay for the parts and installation of the service lines, they do not actually own the wires, poles, or meters that comprise them. Electricians often spoke to me of the meter as a “gate” or border beyond which is Tanesco’s property and responsibility; households cannot repair or alter service lines, nor take them if they move, nor certainly sell them. As Marcel Mauss famously theorized of the Gift ([1925] 2016), in a service line one doesn’t just receive the object but something of the giver as well.

While I will do much to complicate this setup in the coming pages, I start with it here to emphasize that, at its most basic level, the power network binds a nested relation between consumers and utility and more broadly between citizens and the state. This relation is necessarily virtual. It has a social form (citizen/state) that can be inferred from its empirical manifestations (the circulation of current and currency). One might even picture a spectrum with virtual social form at one end and actual vital content on the other (see the current-currency circuit below). In the middle stands the service line. It is an empirically real artifact, costly and solid, given and received. But like phatic communication it is hollow in the middle. Its content is the form itself.



Starting with form will allow us to understand the way politicians, consumers, and electricians have worked within it—or fallen out of it. We have, if you like, set up the rules of the system. But as we know from the Wittgensteinian tradition, to follow a rule is a complex affair involving the “interplay of obligation, coercion, and desire” (Das et al. 2014, 7). That the lived space delimited by such rules (or more accurately, the space from which we could infer such rules) will remain inhabitable or even intelligible is in no sense guaranteed, and often depends on the vagaries of history, as I’ll show below. Form is a precarious achievement, always in danger of being “dismantled like a palace swept away upon the flood, whose parts, through the effect of currents and stagnant waters, obstacles and straits, come to be combined in a manner other than that intended by the architect” (Levi-Strauss 1966, 231).

socialist circulation

In the run up to independence in the late 1950s and 1960s, Africans entertained and debated different forms: national autonomy or regional federation (Wilder 2014)? Pan-Africanist unity or Marxist solidarity (McGovern 2012b)? Political scientist Jean Francois Bayart (1993) posited a spectrum of decolonization styles ranging from “conservative modernization” to “social revolution.” Tanzania veered toward the latter, exemplified by first President Julius Nyerere’s political philosophy of *ujamaa*. For Nyerere, *ujamaa* meant something like African socialism, but more literally translates to familyhood or kinship (Lal 2015). This was a variant on the regional politics of social (inter) dependency, in which a circuit of reciprocal rights and responsibilities structured the relations between master and slave, patron and client, or husband and wife (Glassman 1991; see also Eglash and Foster 2017). Dependency was a hierarchical but relational contract, with well-understood opportunities for social “exit or voice” (Hirschman 1970) should the more powerful not hold up their end of the bargain of patronage and protection (Ferguson 2015).

What pushed this patronage structure toward social revolution was *ujamaa*’s emphasis on collective sacrifice of both rulers and ruled in service of the future. Nyerere outlined the philosophy of *ujamaa* as early as 1962. The following year, in a bid to eradicate “tribalism” (*ukabila*) he stripped chiefs of executive powers they enjoyed under the colonial state. After a failed army mutiny in 1964, he constitutionalized one-party rule. In 1967 he delivered the Arusha Declaration, which nationalized industry and instituted a leadership code that prevented party leaders from accumulating private wealth. The cumulative effect of these policies was to flatten and unify national space

under the party/state. Nyerere was revered as *Baba wa Taifa* (Father of the Nation), but his more specific honorific was *Mwalimu* (Teacher); a paternal authority, yes, but a strict one, a channel for something larger than himself. Where other newly independent African countries might take the easy way out by submitting themselves as Cold War client-states, or where the government might abandon its citizens for illicit self-enrichment, or where ethnic factions might capture and eat the national cake, both rulers and ruled were called on to forestall these temptations and instead sacrifice for the greater good. They were called on to bear the heavy hand of state discipline, to lend their energies and resources to anti-apartheid and anti-imperialist struggles beyond their own borders. And yet in exchange for withholding from themselves the selfishly parasitical pleasures of Western modernity, or capitalism, or ethnic particularism, they entered into a collective form: an orientation to a shared future in which Tanzania was self-sufficient, pan-Africanist, and free of exploitation.

While the English translation of *unyonyaji*—exploitation or parasitism—is likewise drawn from the philosophy of international socialism, it was also grounded in deeply local meanings. *Unyonyaji* literally translates to sucking (the verb form *kunyonya* could mean suckling at the breast) and refers to the diversion of vital flows—blood, food, money, health (White 1994; Weiss 1996; Myhre 2017)—that connected people in proper social relations. This was a pan-ethnic idiom grounded in the experience of both social and biological parasites and resonated with fears of blood-sucking vampires and witchcraft eradication campaigns that occasionally swept through colonial East Africa in the first half of the twentieth century (Brennan 2008; White 2000). Building on these associations, Nyerere’s nationalist party (then known as Tanganyika African National Union [TANU]) promised, as a series of political cartoons viscerally depicted, to “cut the straws of exploitation” that had been inserted into the African body (Brennan 2006a, 399). Most immediately this referred to white colonial rule, as well as to the commercial dominance of “Asians” (*Wahinidi*) and “Arabs” (*Waarabu*) plugged into diasporic networks of trade. Animus against the latter culminated in the 1971 Land Acquisition Act, which expropriated and nationalized Dar es Salaam’s urban housing stock, the majority of which was Asian-owned (Brennan 2012).

Eradicating parasitism thus resonated with popular structures of feeling, and this in turn helped justify or at least render plausible the state’s escalating consolidation over political life. And yet ambiguities remained, not the least being that the postcolonial state exhibited strong continuities with its late colonial predecessor. While the first decade of independence coincided with

a period of widespread economic growth, most African postcolonial states remained essentially nonindustrialized, with a narrow manufacturing base and a wide swath of low-margin peasant agricultural production marketed and sold by a state elite (Hart 1982). Most Tanzanians' standards of living were not appreciably transformed to resemble those of their former colonial masters. As during the colonial era, urban migration continued apace as people looked for commercial opportunities more appealing than rural life, swelling an awkward category of poor urban dwellers engaged in petty trade. Neither peasant (*mkulima*) nor worker (*mfanyakazi*), this essentially lumpen figure had a number of overlapping names: *muhuni* (thug), *kabwela* (the perpetually short-changed "little man"), or *mswahili* (a Swahili or "coastal" person). And, as in the colonial era, the state undertook moralizing campaigns of harassment and repatriation, seeing them as parasitic on the "productive" economy (Burton 2007). People's militias (*migambo*) and Youth League members (many of whom would otherwise be targets of such campaigns) conducted quasi-militarized "operations" designed to sweep out vendors, idlers, and other parasites who were deemed enemies (*maadui*) of the nation (Ivaska 2011; Brennan 2006b).

More subtly, Tanzanians were called upon to police themselves. *Naizisheni* ("nationalizers"), the African clerks and bureaucrats employed by the colonial state who emerged as party leaders, looked down on "Swahili" urban dwellers for not conforming to the proper discipline of modern national life. At the same time, they could not overlook the material inequalities between them. The result was a series of constant little exercises in combatting their own unwitting exploitations. Consider the following newspaper editorial from 1968:

There are several types of unyonyaji. There is the person who exploits another person or the person who exploits the Nation. Although it is true that many of us really hate exploiters, but we always forget to ask ourselves if we ourselves exploit or not. Maybe you who have your radio, and every day at 600 you listen to music, world news etc., have you already cut your straw of unyonyaji regarding your radio? Have you already paid your radio license for this year? If not, why in your heart do you hate so much unyonyaji? Remember that the machines that broadcast the news every day is paid by the money of society. (quoted in Brennan 2006a, 396)

In other words: don't just direct your attention to the news, direct your attention to the channels themselves ("of society") through which it flows. This is indeed a kind of phatic communication, and it is not surprising that

much of Tanzanian statecraft was devoted to similarly ritualized affirmations of order. As in Guinea (Cohen 2021), the new state invested considerable resources in cultural life, sponsoring dance troupes that “performed the nation” often through simplistic, over-formalized slogans paying tribute to Nyerere or the party (Askew 2002). Harassment of the unproductive poor mentioned above—never very effective—also had a cyclical, almost ritualized quality. In the absence of truly *collective* development, citizens were consistently relayed back to the form through which it might be eventually realized.

fossil developmentalism

The electric grid was an appealing extension of this centralizing, collectivizing logic. The idea that power networks could help create national subjects was a prominent theme in left-wing modernization theory, most famously expressed in Vladimir Lenin’s maxim that Communism is Soviet power plus the electrification of the countryside (see Scott 2000, 166). Elizabeth Chaterjee (2020) calls this nation-building sensibility “fossil developmentalism,” which she contrasts with fossil capitalism, wherein electricity is a mere technical input for extractive industry and money-making ventures. Unlike its enrollment in the project of fossil capitalism, postcolonial electrification was imbricated in “a shared moral project of developmentalism . . . partly decommodified and instead conceptualized as a national good and increasingly as an (imperfectly recognized) entitlement to be demanded from the state” (2020, 4).

During the colonial period of what was then called Tanganyika, electricity still very much operated in the fossil capitalist mode. Across Tanganyika and Kenya, small diesel generators and transmission lines owned by colonial enterprises traced out the extractive geography of railroad lines and telegraph cables that linked plantations and mines to port and sea. This extractive geography was thematized in widespread rumors of “vampires” (*mumiani*). Reputed to be Africans in the employ of the colonial state, *mumiani* were said to whisk victims into the back of motorcars, behind hospitals, or within other nefarious colonial enclosures, and then parasitically suck their blood via electrical wires and other industrialized implements (White 2000). In such rumors the parasite is not the African feeding off the productive colonial economy but rather the colonial state itself. In Dar es Salaam, too, electricity flowed mainly into white neighborhoods and government buildings, with some current reserved for public street lamps in the Asian-dominated market district.

After independence, the colonial power utilities were nationalized and the state embarked on a concerted effort to expand generation and extend access to its new citizenry. From the 1960s to 1990s it built a series of hydropower dams largely funded by Nordic social democracies interested in Tanzania's socialist experiment, and exemplifying its logic of centralized nation building (Hoag and Öhman 2008; cf. Tischler 2014). It achieved a 60 percent connection rate in Dar es Salaam by 2000 and a 30 percent rate in rural areas (van der Straeten 2015b). Consumers enjoyed low domestic tariffs facilitated by industrial cross-subsidies. For the thin stratum of mostly urban dwellers, power was reliable and affordable, despite and perhaps because it was only casually connected to the cost of actual generation and maintenance. While actual access itself was far from universal, the very fact of its ongoing extension functioned as a promise. As another socialist-era editorial proclaimed, "the march of pylons is a sign of progress."¹¹

By the 1980s, the signs looked less promising. As part of a more general economic crisis, the power network began to experience high levels of transmission and distribution losses that could not be remediated by the post-colonial state budget nor by Tanesco, given the latter's "low self-financing ratios" (Gratwick and Eberhard 2008, 3950). In tandem with the broader package of liberalizing reforms, the World Bank proposed to finance its unbundling and eventual privatization. And yet what ensued in Tanzania and in power sectors was hardly a straightforward transition to market competition. Chapter 1 takes up this history in detail, but here it suffices to say that Tanesco exemplifies the "demise of the standard model" of privatization (Gratwick and Eberhard 2008). Its lynchpin was the introduction of so-called emergency power project (EPP) contracts, noncompetitive tenders with private companies (most of which had complex ties to state officials) for expensively produced, thermally generated power to make up for hydropower shortfalls. Chaining the power sector to these supposedly temporary private contracts had a deleterious effect. They locked in a downstream pattern of cyclical blackouts and emergency supply, while driving up debt and preventing investment in maintenance or network extension. The result was not so much a replacing of public infrastructure with private enterprise as their ambiguous blurring—the kind of "crony capitalism" familiar across the post-Cold War world, from Russia to the United States.

Hence, in the early 2000s, precisely when electrification was expanding in importance, its degraded infrastructure constituted a major moral and technical strain. Ordinary power consumers were left with higher tariffs, aging service lines, and sometimes were literally left sitting in the dark. In turn,

the “power woes” became a key index of the state’s fraying commitments, in particular the fraying of trust in the ruling party, which had in 1977 changed its name to CCM (Chama cha Mapinduzi, party of the revolution). To what extent did the collective premises of (fossil) developmentalism, embodied in the gift relations of infrastructure, still hold? To what extent had CCM’s leaders, released from the moralizing strictures of a centralized party/state, become parasites, unduly eating at the expense of *wanyonywa*, the exploited? Tellingly, this was also a moment when racial resentment once again became politicized; the two most notorious EPP contracts were understood to link party elites and Asian businessmen.

EPP contracts leaching revenue at the headwaters of the system also made it difficult for TanESCO to enforce its monopoly on power consumers downstream. In 2010, a field survey estimated that TanESCO had suffered system losses of 24.4 percent (Azorom, AETS 2010). These combined “technical” losses occurred in the transmission and distribution process (12.8 percent) and commercial losses; that is, billing or meter irregularities (11.6 percent). From 2004 on, commercial losses have been hovering at around 12 percent, a doubling of their previous ten-year average of 5–6 percent (Vagliasindi and Besant-Jones 2013, 350). As I describe in chapter 3, TanESCO regularly dispatched “loss prevention” teams to inspect neighborhoods for metering or billing irregularities. They encountered various arrangements that diverted the upward flow of currency, including meter tampering, stoppages, slowdowns, bypasses, and surreptitious reconnection—often with the help of *vishoka* and their collaborators in TanESCO. Like the downward flow of current, the up-flow of payment was diverted and redistributed in ways that challenged underlying assumptions of reciprocity between utility and consumer, and ultimately citizen and state.

Challenged but—crucially—not vitiated. The collective circuit of the power network was partially redistributed at both the generation and consumption end, but at each point Tanzanians debated or articulated the limits of those redistributions. If it was one thing for a politician to take the proverbial 10 percent cut off an EPP power generation contract, it was another to take the whole thing. If it was one thing for households to rack up debt on their meters (even debt they might never pay back), it was another to bypass those meters. These distinctions preserved the core functionality of the power network, even as they mapped the ways that network accommodated itself to facets of Tanzania’s changing social and political milieux. And in this way, they indicate how parasitism has come to be tacitly reconceptualized in Tanzania from something to be eradicated to something tolerated, within limits.

tolerance thresholds

The road was blocked; I didn't see that you called; this text message was mistakenly delivered to me (but since it concerns you I figured I'd pass it along). People or things don't always arrive at their destinations, or arrive as intended. Like many truisms, this rides the line between the banal and the profound,¹² but it is the point of passage that links an older anthropology of the gift to science and technology studies, with its emphasis on associational networks, and to the "new materialism" with its emphasis on thingly recalcitrance to human designs (Bennett 2005; Latour 2005). One of the most charming and interesting theorists of this truism is Michel Serres, particularly in his work *The Parasite* (1982).¹³ Drawing on cybernetic theories of channels and transmission, as well as European philosophy and folklore, Serres theorizes the parasite as any agent that acts as an interrupting third, perturbing a connection between two (or more) *relata*. His classic example is the fable of the country mouse guest who eats at the expense of his city cousin host, who in turn depends on the table scraps of a village tax collector, who in turn "takes a cut" of the productive efforts of his constituents, who themselves exploit the fecundity of the land, and so on down the line. In a cosmic sense, parasites are the generative principle of complex systems, branching out into an infinity of networks. "Life," as Eduardo Viveiros De Castro asserts, "is theft" (2014, 16).

In practice, parasites are always defined in relation to what media theorist Anna Watkins Fisher (2020, 25) calls the "threshold of accommodation." From Somali pirates along transnational shipping routes (Dua 2019) to the "corn jobbers" and "forestallers" that nestled into the highly regulated bread trade in early modern England (Thompson 1971), parasites change the "facts on the ground" by occupying some strategic position along a channel and nesting on its flow. But if the parasite exploits its host, for that very reason it must learn to play the good guest, keeping its presence within some tolerable margin; it cannot be too obtrusive or take too much. Conversely, the host must inevitably learn to accommodate the larger world of which that parasite is an emissary; it cannot get too "immunological," too preoccupied with purifying its environment (Esposito and Hanafi 2013). In short, guest and host must share the meal, such that some sort of ecological coexistence becomes possible.

This is easier said than done, of course. Within such coexistence, "the real parasite" is always a matter of perspective, even recrimination. Is it the guest who, uninvited, comes between the host and his meal? The host who, hoarding his stock, forces his guest to sing for her supper? Or is it the meal itself

which, because it only goes so far, inevitably injects a sour note of material calculation into their amity? In these delicate circumstances, hospitality may turn to hostility (Shryock 2019). The balance of forces determining who gets what may well shift its equilibrium.

This is one way to understand the long modernizing century of increasingly networked flow. By the end of the nineteenth century, an emerging biopolitics in Europe and the United States sought to stabilize the runaway exploitation of urban industrial capitalism whose hard times were memorably captured with ethnographic realism by authors like Charles Dickens and Henry Mayhew. “Architecture or revolution,” Le Corbusier ([1923] 2013) famously warned: civil society reformers and technocrats sought to make populations healthy and productive (and docile) through expanded provision of water, light, housing, and security. Meanwhile, labor wrested democratic power and legal protections, sometimes by exploiting critical chokepoints in the energy supply until their demands were met (Mitchell 2011). By *les trente glorieuses* (1945–1975) of postwar reconstruction and seemingly limitless energy consumption, the corporatist compromise between capital and labor in the white North Atlantic could generate a powerful sense of social security, if not boredom, albeit one paired with an ambient Cold War paranoia about infiltration and “vital systems” collapse (Collier and Lakoff 2015).¹⁴ Here was a purified, modernist world in which money was mediated by impersonal bureaucracies and markets, in which life was regimented into vast formalized systems of banking, housing, and consumption, underwritten by a national state.

Decolonization in the social revolution mode marked Africans’ utopian attempt to transcend their historical exploitation and assume this modernist form. Since the slave trade, the continent had been a source of raw materials that nourished modern comforts and marvels (D. M. Hughes 2017). It is not for nothing that Walter Rodney (1972, 179) calls the colonial epoch the “Age of Electricity,” with African-mined copper lining the power grids strung across Europe and the United States. For educated young civil servants like Julius Nyerere that comprised the core of nationalist leadership in Tanganyika, this was not only a moment when the “straws of exploitation” could be cut and colonial parasites could be swept away, but one where modern standards of living might be available en masse and Africans might claim membership in a global humanity. Eager to cut history off at the pass, the centralized party-state nationalized the economy and attempted to route all flows of goods, money, and people through its institutions, adopting its own Cold War-inflected “security” discourse of eradicating parasites and enemies.

By the 1980s, however, it was clear that this utopian ambition belied an enduring postcolonial condition of underdevelopment and “unequal exchange” (Amin 1978). Most African countries remained “open economies” (Guyer 2004, 116–18), reliant on primary commodity exports for hard currency and unable to develop the industries required to spur economic growth and expand public infrastructures, which remained limited and patchy. Compounded by the austerities of structural adjustment, elites improvised forms of “private indirect government” (Mbembe 2001) that involved diverting funds flowing through state apparatuses and funneling them to intermeshed networks of security, extraction, and trade. Meanwhile, rapidly urbanizing populations “survived on the basis of markets that emerged spontaneously to recycle the money concentrated at the top and to meet the population’s needs for food, shelter, clothing and transport” (Hart 2010, 375). In short, both accumulation and survival came to revolve around what Ferguson calls distributive labor: “processes of diversion, division, and tapping into flows” (2015, 96). And if everyone is to some extent or other tapping or diverting, then flow itself becomes a performative negotiation, a “conversion” across some sort of social or territorial differential (Guyer 2004). Different actors claim the right to levy rents on value circulation, a practice whose dual connotations of cutting (as in to rend) and connecting (as in to render) express its quintessentially parasitic logic. Rather than fading into the taken-for-granted background, the channels that make flow possible are reflexively figured, subject to contestation, reinterpretation, and multiplication of use. So long as they don’t choke off circulation altogether, these negotiations over who gets “a piece of the action” serve as powerful sites of redistribution, tracing out the shifting contours of community, membership, and social obligation. Pushed too far, however, they can erode the basic sense of shared coexistence and fuel the kinds of civil conflicts that flourished in the 1990s.

Perhaps the most vivid examples of this dynamic involve the military checkpoints and roadblocks that have mushroomed across road networks in West Africa, Democratic Republic of Congo, and Central African Republic. From the perspective of drivers and travelers who are often subjected to security shakedowns and intimidations, these checkpoints are sites of extraction and predation. But as Janet Roitman shows in her ethnography of the Chad Basin (2005), for such *coupeurs de route*—a mix of militiamen, state officers, bandits, and other would-be regulatory authorities—working the roads is a kind of opening. It allows them to “pay themselves” when conventional salary flows from state institutions have been compressed or cut off. Roads are thus

sites where basic questions about the nature of wealth and social obligation are broached: who owes what to whom? Who is the parasite and who is the channel? And what is the proper distribution of these intersecting flows of money and movement in conditions of scarcity and volatility?

The answers to these questions tend to emerge through experiment and improvisation. Consider a scene from McGovern's (2010, 188) "checkpoint ethnography" during a ramp up to potential civil conflict in early 2000s Cote D'Ivoire:

On one particularly exhausting and hot minibus ride I was on, the security forces kept us a bit too long for the liking of several older women who were bringing their goods to a nearby market. They suddenly switched out of the mode of silent simmering anger we had all assumed, and began to berate the soldiers and police. "You are our sons. Why are you holding us up like this? There are no rebels in this bus you know that! We are your mothers and we are tired. We have been working since dawn, and we have places to go. Give us our papers and give our driver his papers before we curse you." After a slight pause that did not do much to help them save face, the soldiers decided that our papers were in order and we were on our way. Laughter and congratulations ensued in the vehicle as soon as we were out of earshot. Nevertheless, we all knew that such heroism succeeded in such a setting not because the women had justice on their side, but because so many other vehicles and passengers—indeed these same women at other checkpoints at other times—would suffer the delays and indignities visited upon them in silence.

While the tense situation of "neither war nor peace" in 2000s-era Cote D'Ivoire makes this example particularly charged, similar shakedowns can be found along roads across the continent (Takabvirwa 2018), including many I and countless others have experienced in Dar es Salaam by traffic police.¹⁵ What it suggests is that while the parasitic redistribution of movement and money can unexpectedly explode into debates or even violence (Lombard 2013), there are also tacitly inferred (and occasionally explicit) principles that regulate its intensity, allowing it to remain within a tolerable "threshold of accommodation" that preserves the formal coherence of the relation. After all, not all parasites kill their host—only those who take too much. At sufficient levels of violence or expropriation—that is, when road-blockers are not simply uninvited guests to tolerate but enemies to avoid—passengers will reroute or stop traveling altogether.

Properly regulating parasitic redistributions thus entails making inferences and predictions. How aggressively should *coupers de route* comport themselves? How often can passengers press their luck and protest? How much time, money, or dignity would it save them? McGovern's phrasing—that market women “switch out of the mode” of silent endurance into something more confrontational (2010, 188)—is noteworthy; modality is a useful way to think about these calculations. The concept receives explicit treatment in philosopher Helen Verran's commentary on an influential work of Africanist anthropology: Jane Guyer's discussion of another performative negotiation, this time by a woman named Madame A, the proprietor of a petrol station in rural Nigeria. Madame A was able to honor the government-mandated price of petrol during a supply shortage while tacitly allowing the “real price” to rise through ancillary discounts and premiums (time waited, anxiety, volume of product), thereby preserving a certain “range of normality” (2004, 114). As Verran (2007, 181) describes, Madame A's virtuoso performance both exemplifies and invites a “modal reasoning” that grasps the integrity of the whole amid the shifting arrangement of its parts:

We might find ourselves saying: “Generally, the price of petrol goes up in a shortage.” The adverbial way we use *general* here can alert us that we are engaging modal reasoning. This form of generalization evokes a vague whole that we might call the “petrol economy.” The specific ordering of some parts and the general order they constitute are articulable. Relational empiricism studies the “lives” of these vague wholes, specifying the ways its parts come to life and perhaps die off, identifying the mediations that are important in the “doing” of this vague whole.

In both linguistics and philosophy, modals are operators broadly concerned with grammatically or logically qualifying a statement by expressing its counterfactual or nonactual dimensions—with the interplay of possibility and necessity (epistemic or “natural” modality), permission and obligation (deontic or “social” modality). In his own discussion of modal auxiliary verbs, Kockelman gives the following example: “while you *may* use a teaspoon to dig a ditch (insofar as no will arrest you) you probably couldn't dig that ditch very fast or very steep” (2017, 131). Put another way, modals express an inferred range of possibilities, and their various tradeoffs, of an emergent relation (say, the channeling of dirt) in general. A spoon is one mode of digging, hardly ideal but one that still qualifies. Other modes are not discrete but continuous (and to capture this fractional quality we might use the more diminutive term *modi-*

fication): a spoon with a bent handle would also count as a mode of digging, one that increasingly (dis)qualifies, but does not vitiate, its basic character. Finally, while modals are inherently attuned to other possibilities and hence have a disruptive quality (they gesture subjunctively to “being otherwise”), they also have an important link to *modesty*. They always proceed *in medias res*, reflecting on what one could or should do with the materials at hand—on how actor and environment mutually impinge upon each other to form a distributed agent with its own logic and particular range of movement.¹⁶

Since the economic crises of the 1980s, Dar es Salaam has been popularly known as Bongo, a Kiswahili word that literally means brains, and more figuratively refers to the way one must use one’s ingenuity (*ujanja*) to survive or prosper (Callaci 2017). In this way, it is part of a larger cultural vocabulary of cleverness and cunning that has proliferated across African cities in the wake of structural adjustment (Petit and Mutambwa 2005). In showing how politicians, residents, electricians, and utility workers all work the channels of current and currency flow, I build on this rich literature of African urban life “after adjustment” (Melly 2017; Simone 2004a; De Boeck and Plissart 2004). But by thinking about these “parasitic” exploits in terms of modes and modification, I also want to highlight the underappreciated role of *modesty* in urban life, by which I mean the ways these exploits heed a larger collective relation and thereby, at least for the moment, remain within its form.

To flesh out this idea, we can turn to Gregory Bateson’s own well-known example of moving in concert with one’s environment: “Consider a man felling a tree with an axe. Each stroke of the axe is modified or corrected, according to the shape of the cut face of the tree left by the previous stroke. This self-corrective (i.e., mental) process is brought about by a total system, tree-eyes-brain-muscles-axe-stroke-tree; and it is this total system that has the characteristics of immanent mind.” (1972, 230)

Cutting here is continuously modified, shifting force and angle, but in a regulated way whose range of variations corresponds to the notches in the tree. The woodcutter cannot hack blindly at the problem, but must align his eyes and muscles to the wood, to see it from the wood’s perspective, as it were. In turn he enters a form whose logic (or mind) is distributed across its component parts. Likewise, for those residents, politicians, or “hatchets” looking to successfully modify the circuit of current and currency, either to exploit or repair its form, a similar sort of modesty is required. It requires not being too greedy or thoughtless, of heeding the basic premises of collective interdependence that, like road networks, the power network manifests. As I show across the following chapters, it is not quite right to say that actors who parasitically

divert resources away from collective circulation are subject to moral re-crimination. Given the centrifugal political economy of liberalization, this is only to be expected. The problem occurs when such actors *take too much*, when they foolishly or greedily ignore various subtle distinctions between what is tolerable and what is insensible—that is, between rent and plunder, load shedding and blackouts, debt and theft. By contrast, to reason modally, to model the consequences, is to think with and as part of the system itself as it unfolds into the future.

The chapters that follow explore postsocialist modes of generation, transmission, consumption, and maintenance/extension. Each is a “qualified” expression of a given stretch of the infrastructural circuit. Each mode accommodates some parasitic interference, whether in the downward flow of current (oligarchic rent-seeking at the generation level, supply deficits at the transmission level), or in the upward flow of currency (Tanesco’s difficulties in enforcing payment in the labyrinths of popular neighborhoods, the insertion of unofficial *vishoka* brokers into Tanesco’s bureaucracy). Put another way, they all express the network’s inextricable enmeshment with other networks that constitute its environment: Tanzania’s politics and publics, its landscapes and livelihoods. And they express how, as the power network came to be the symbolic and practical center of Tanzania’s national compact, actors had to strike a balance between undermining and preserving it.

the chapters

Consumers’ access to electric current depends on the household wiring it flows through, which in turn depends on the public service lines that feed it; all of which in turn depend on the branch and root Tanesco offices—the institutional bureaucracy that regulates the physical network as such. To borrow anthropologist Nancy Munn’s description of the Kula Ring (1976), this is a nested hierarchy of spatiotemporal expansion, and the different scales demand different methods. As I show in chapters 1 and 2, the headwaters of the network require an ethnographic analysis attuned to elite political economy, as well as the shifting ideological and affective currents of public life as a whole. Chapters 3 and 4 fan out to the decentralized “tail” of the network at street level. Here the object is less the overt citizen/state relation than the utility/consumer relation that forms its derivative, and concerns the landscapes and livelihoods of urban neighborhoods. While the chapters move in one direction only, each level is a bridge up to the one it succeeds.

Chapter 1 (“Emergency Power: A Brief History of the Tanzanian Energy Sector”) begins at the headwaters of the network to examine the way large scale changes in Tanzania’s political and economic systems intersected with the generation of electricity. A robust Tanzanian power sector is a key prerequisite for economic growth and stability, but the upstream processes of allocating funds and tendering contracts has often been parasitically diverted to other ends. Focusing on these upstream conditions not only explains much of the expense and shortage in which Dar es Salaam electricity consumers currently find themselves, but highlights what we might call actually existing privatization and the forms of post-Washington Consensus oligarchy it is bound up in.

Since the 1990s, cyclical droughts have prompted dubious government tenders to well-connected private companies for emergency infusions of oil-generated electricity. These public bailouts are quickly converted to private rents that in turn feed the patronage network and fund electoral campaigns. The chapter focuses on two key instances of this dynamic: the 1996 contract with the Malaysian-Tanzanian company Independent Power Tanzania Ltd, for 100 MW of heavy fuel oil generated electricity, and the 2006 contract for 120 MW of thermal power with Richmond Development, an ostensibly American company with direct ties to the prime minister at the time, Edward Lowassa. Both of these supposedly short-term emergency generation arrangements were incorporated into the grid’s long-term functioning, and both helped to cripple TanESCO’s operations.

Despite or because of the damage these contracts inflicted, a residual sense of political centralization remained. In response, the sitting presidents Benjamin Mkapa (1995–2005) and Jakaya Kikwete (2005–2015) facilitated a series of anticorruption sweeps to hold the worst excesses of their party’s elites in check. Still, rather than seamlessly regulating the tradeoffs between acquiring private rents and retaining public legitimacy, the rhythm was that of a yo-yoing *fort/da*, of punctuated power cries and annual rationing periods, offset by occasional anticorruption sweeps and new jolts of expensive thermal generation. I have come to think of the interweaving of politics and power, elections and electricity, as a single system of emergency power in which the ruling party CCM incrementally burned through on-demand oil contracts, smash-and-grab rents, and residual socialist legitimacy.

Chapter 2 (“The Flickering Torch: Power and Loss after Socialism”) follows electricity from its generation sources as it is distributed (or not) throughout the city. One of the most damaging consequences of the emergency power

contracts and sector reform more generally is that it proved unable to overcome the grid's generation deficit, locking in a cycle of sporadic power interruption capped off by periods of intense, countrywide power rationing. The bulk of 2011 was one of the worst such periods and coincided with the beginning of my long-term fieldwork.

Drawing on scholarly work attuned to the poetics and semiotics of infrastructure, this chapter describes how Dar es Salaam's public read and responded to these different sorts of power loss. When properly—that is to say publicly—distributed, power loss bound the city together in a shared atmosphere of sacrifice that, I argue, reprised core elements of Tanzania's political culture. Since *ujamaa*, Tanzanians have regularly been called into existence through lack, asked to suffer collectively in exchange for the promise of a future fullness. Key here was the ability of words to act as a placeholder for things; media and public communication more generally in Tanzania have long functioned as a kind of second-order phatic infrastructure that enacts the form of a social relation when the vital flows that substantiate it are interrupted or delayed. Indeed, all manner of ideological broadcasts accompanied the power crisis of 2011, drawing contextualizing links between past and future, cause and effect, and generally re-inscribing it within a developmentalist narrative. That said, promises and explanations only go so far. After fifty years of independence, amidst a springtime of popular uprisings, yet another call to endure national hardship by an incumbent party grown rich could seem but a faint or distorted echo of more optimistic times.

Such skepticism, moreover, was only reinforced by the kinds of power cuts that could *not* be plausibly narrativized. From 2012 onwards, irregular or unexplained cuts frazzled the public, giving rise to rumors and suspicions about covert and illegitimate rationing, and resonating with a wider “communication breakdown” marked by the forceful silencing of political opposition. Enduring these shifting patterns of power outages and their effects on the public nervous system, residents articulated an important and key postsocialist distinction: if it is one thing to endure absence, it is another to endure it in the absence of explanation.

Chapter 3 (“Of Meters and Modals: Patrolling the Grid”) descends down to the street level of urban life to examine electricity's point of sale and consumption. For resource delivery infrastructures such as power (or water), the meter marks the switch over from producer to consumer, and from current to currency. However, this switch is not a straightforward process. The technical structure by which meters record use, the larger bureaucratic procedures to which they are attached, and their enmeshment in urban space all create

potentials for diversion. On the utility side, current arrives more expensively and less reliably thanks to the forms of emergency power that generate it upstream, and this stokes consumer dissatisfaction and distrust. On the other hand, payment itself must be consolidated and rendered upwards by households that are themselves plugged into an informal economy and landscape that disincentivize even rhythms of payment.

The chapter offers an ethnography of TanESCO disconnection teams and revenue protection units as they circulate through various neighborhoods to monitor, inspect, and occasionally disconnect household and commercial meters. In narrating these patrols, the chapter describes the formation of two recalcitrant landscapes of electricity use in postsocialist Dar es Salaam: an older, denser, and poorer urban core, comprising what are known as “Swahili” (*uswahilini*) neighborhoods, characterized by multiple-family rental housing and an aging postpaid metering system; and a relatively new, spacious, and wealthy set of neighborhoods characterized by gated compounds with prepaid meters. Residents in both diverge from TanESCO’s ideal of legible citizen-consumers who pay for service in even and transactionally precise cycles. Instead, high levels of debt and surreptitious reconnection tend to characterize the former neighborhoods, while incentives for intentional theft and tampering tend to characterize the latter. If the official socialist teleology would have the poor Swahili classes eventually join the white-collar clerks “on the grid” as responsible citizens, the enterprising indiscipline of wealthier compounds suggests something else has unfolded. In certain ways the latter have drifted to more “Swahili” styles of life that anticipate scarcity and strategically disengage from projects of state legibility.

Faced with the evasions, protests, and obstructions of those who do not wish to be disconnected for debt or theft, some inspectors rail against customers who want it “easy” with stolen power or unpaid bills, echoing a socialist discourse of discipline and hard work. However, patrols are also well aware that the same liberalizing forces that created this indiscipline press upon them as well, in the form of diminishing pay, equipment, and job security. Some inspectors incorporate extortionist or protectionist arrangements with customers, while others maintain an ethical outlook steeped in the “socially thick” Fordist labor regime that TanESCO could still resemble even in the 1980s and 1990s (Ferguson 2006, 197). Somewhere between rejecting and exploiting the putatively “Swahili” mentality of easy money, TanESCO patrol teams and customers collaboratively exercised a kind of modal reasoning about what kinds of diversions of payment are tolerable and which ones are insensible.

Chapter 4 (“Becoming Infrastructure: *Vishoka* and Self-Realization”), finally, turns to struggles over maintenance and extension. After years of dwindling

investment or funds for customer service, access to a functioning service line is beset with all manner of difficulties. *Vishoka* like Simon have emerged to facilitate access, expedite customer applications, provide emergency repairs, tamper with meters, or divert materials and supplies to residents in parallel markets, often by collaborating with Tanesco employees “inside” (*ndani*) the institution.

Drawing on a rich Africanist literature on wealth in people, this chapter shows how *vishoka* livelihoods and careers are reincorporated into Tanesco’s customer service processes. In general, *vishoka* are incentivized to move upstream from the relatively “technical” decentralized edges of the network inward to its relatively “social” center, from small-scale repairs and reconnections at the street level to the second-order sphere of mediating the bureaucratic process by which the residents connect to the grid. This arc requires them to build up singular reputations as trustworthy collaborators to both consumers and Tanesco bureaucrats alike, which is not always an easy task. In this way we could speak of their careers as a process of “becoming infrastructure,” of inserting themselves as mediators of the network at increasingly deeper, more “social” levels. Both parasite and channel, they are the densest expression of Tanzania’s postsocialist condition as a living circuit, a give and take of mutual adjustment and responsiveness that threatens to fall out of form; but, at least in the first decades of the twenty-first century, managed to keep spinning.

INTRODUCTION

- 1 As Tim Ingold (2015, 11) points out, contract should properly refer to an interweaving that is evoked in its etymology of *com* (together) + *trahere* (to pull or draw).
- 2 On Serres's deceptively "acritical" philosophical disposition, see Latour (1987).
- 3 For a useful critique, see Newell (2006, 182).
- 4 For a powerful analysis of the ways material flows substantiate social worlds, see Claudia Gastrow's (2017) ethnography of "cement citizenship" in Luanda.
- 5 Daniel Mains (2012) observed a similar phenomenon in the comparison between privately contracted hydroelectric dam construction and privately contracted road construction in urban Ethiopia. The latter acquired popular buy-in and sacrifice, in part for the ways in which the emergent *effect* of these private contracts was, manifestly, collective development—roads that all could use. The former simply produced blackouts.
- 6 Actor-network theory tends to imply an "auto-limitlessness" that can only be resolved by some performative act of "cutting the network" (Strathern 1996). Moreover, if a network is simply the sum of the relations that compose it at any given moment, then one is reduced to the untenable philosophical position of "actualism," in which every accretion produces an ontologically new entity (Harman 2010, 128).
- 7 This quintessentially Melanesianist example finds its Africanist counterpart in the "spheres of exchange" of late colonial Tiv society, whereby rights-in-people (i.e., marriage) is the paramount (we might say infrastructural) sphere since it does not deliver any particular use-value but rather the very possibility of future use-value (Bohannan 1955).

- 8 As John Durham Peters (2015, 14) remarks, in phatic communication one has “nothing to say and everything to mean.” See also Stevenson (2017).
- 9 Charles Zuckerman (2016) helpfully distinguishes between phatic *contact* qua the holding of psychological attention through a technical medium and phatic *communion* as a more specific instance of “positive affiliative sociality” (297) via the exchange of redundant (i.e., channel-foregrounding) messages that Malinowski seemed to privilege, warning that the former does not always lead to the latter. Rather, culturally specific ways of establishing, suspending, repairing, or switching communicative channels are social acts that can signal whether one is dealing with a friend, enemy, rival, superior, or ex (Gershon 2010; Lemon 2018). Indeed, sometimes cutting off (technical) contact preserves the (social) connection (Degani 2021).
- 10 In a similar vein, geographers Maria Kaika and Erik Swyngedouw (2000, 121) characterize infrastructural networks such as “water towers, dams, pumping stations, power plants, gas stations” as an “urban dowry.”
- 11 “Tanesco Power for a Changing Society,” *The Standard Tanzania*, 1968.
- 12 Povinelli (201b, 7) tilts it toward the latter when she suggests we think of these infelicities as the presence of other worlds in formation: “no world is actually one world. The feeling that one lives in the best condition of the world unveils the intuition that there is always more than one world in the world at any one time. The very fact of Malinowski’s presence, and his own argument that for the Trobrianders there were worlds within worlds, testifies to this claim. The material heterogeneity within any one sphere, and passing between any two spheres, allows new worlds to emerge and new networks to be added. This heterogeneity emerges in part because of the excesses and deficits arising from incommensurate and often competing interests within any given social space.”
- 13 As Kockelman suggests, “as *The Parasite* is to *Leviathan*, so actor-network theory is to classical sociology” (2017, 36).
- 14 For a lucid reflection on boredom as the dominant structure of feeling under midcentury Euro-American capitalism, as well as a lively analysis of nineteenth-century “misery” and twenty-first century “anxiety,” see The Institute for Precarious Consciousness (2014).
- 15 For a description of a variation on the theme of roadblock shakedowns in Dar es Salaam, see Tripp (1997, 1). For a contemporary example from Latin America, see Lyon (2020, 1).
- 16 An interest in modifications not only resonates with a pragmatist tradition that encompasses figures as diverse as Martin Heidegger and the American Transcendentalists, with their interest in dwellings and tools, but the ordinary language philosophy of John L. Austin and Ludwig Wittgenstein, with their interest in the way meaning emerges through inhabitation. For example, drawing on Stanley Cavell, Veena Das reflects on the ways words are projected into new situations, such that there is no essential meaning but rather a sense of what is alive in the sentence. Speakers give words different accents and stresses. To the degree that others receive those words, they are joined up together in the trajectory of its emergent character. But this projection

depends on a feel for what we might call a word's topological invariance or "inner constancy"—the way its meaning can be rotated, folded, or stretched. That we can speak of "feeding the meter" but not, generally speaking, "feeding your love," suggests that understanding a word lies not in describing what it is, but in the different ways it can and can't move within a given form of life (Das 2014, 285). Note that Das's quintessentially Austinian ordinary language example, like Kockelman's spoon, depends on the use of modal auxiliary verbs.

CHAPTER ONE. EMERGENCY POWER

Epigraph: Nimi Mweta, "Anatomy of the Power Crisis: Who Didn't Do What, When," *The Citizen*, July 17, 2011.

- 1 Here and throughout, the currency referred to is the Tanzanian shilling. At the time of my fieldwork, the average exchange rate was 1600 shillings to US\$1.
- 2 TanESCO also operates eighteen, mostly diesel-powered mini-grids unconnected to the national grid, servicing rural towns or district centers (see Perez 2018). Moreover, since 2010 a number of mostly hydropower SPPs have come online thanks in part to an updated regulatory framework and growing interest in renewable energy investment. Some feed into the national grids, while others extend or feed into the country's mini-grids. The 5 MW Tulila power plant, for example, is run by the Benedictine Sisters of St. Agnes and feeds into the national grid to power the Songea municipality and neighboring villages (Chipole 2021). The 4 MW Mwenga hydropower station and mini-grid service villagers in the rural Njombe and, through an interconnection to the national grid, provide backup power to the area's Mufundi Tea and Coffee factory (USAID 2018).
- 3 SPPs are defined as private producers with a generation capacity of less than 10 MW.
- 4 See, e.g., the introductory comments in: The World Bank, "Second Power and Gas Sector Development Policy Operation," February 26, 2014, http://www-wds.worldbank.org/external/default/WDSCContentServer/WDSP/IB/2014/03/05/000442464_20140305111847/Rendered/INDEX/840280PGDOP145010Box382156BooOUO090.txt.
- 5 When President Obama visited the Ubungu power plant in Tanzania in 2013, he participated in a staged photo-op with the Sockett, a soccer ball that stores a small electricity charge. Thirty minutes of play is capable of powering a small LED lamp, though the ball was priced at \$99 at the time, while a solar lamp was \$10. See Aroon Preeti, "Sorry, Obama, Soccer Balls Won't Bring Progress to Africa," *Foreign Policy*, July 2, 2013, <https://foreignpolicy.com/2013/07/02/sorry-obama-soccer-balls-wont-bring-progress-to-africa/>.
- 6 See Ferguson (1994, 18) on the "counter-intentionality of structural production."
- 7 These include coal (Mitchel 2011), oil (Rogers 2014), solar (Cross and Murray 2018; Günel 2019), methane (Chalfin 2020), wind (Boyer 2019; Howe 2019), and (small scale) hydropower (Whittington 2019).