

Chapter 1

INTRODUCTION

Democracy's Infrastructure, Apartheid's Debris

In July 2004, just over ten years after the inauguration of Nelson Mandela as South Africa's first democratically elected president, a violent protest occurred in Diepsloot, a mostly informal township settlement inhabited by about 150,000 residents north of Johannesburg. Trash cans were overturned, sewage spilled in the streets, two council offices were burned, and the major road leading to the wealthier suburbs was blockaded with burning tires. Cars that dared to drive past were pelted with stones. The police responded with massive force, deploying water cannons, stun grenades and rubber bullets. The entire settlement was blocked off and designated a crime scene, a blanket indictment reminiscent of apartheid policing tactics during the 1980s. For three days, only minibus taxis were allowed in and out of the area, while journalists and other onlookers were barred from entry.

One of the first large-scale violent expressions of discontent in the post-apartheid period, the protest caught government officials, politicians, and the police off guard.¹ It also starkly interrupted the nation-wide celebrations of ten years of democracy that had begun three months earlier. Most immediately, it was unclear how the protest should be handled and by whom. Senior police officers deployed in the area appealed to the provincial government arguing that this was a "political situation" that required the intervention of the ANC-led government. The provincial minister for housing, Nomvula Mokonyane, countered that residents were involved in "criminal

1 One month later, in August 2004, a similarly dramatic protest would occur in Harismith, in the eastern Free State province, during which one teenage protester was shot and killed by police. Further protests in other provinces followed in September and from then on spread rapidly to the rest of the country.

acts,” which, as such, she maintained, were the responsibility of the police. This initial interpretive quarrel already hinted at the incomprehension and bewilderment the protests had caused amongst government officials and public commentators alike. Although many within the ANC establishment had been quick to dismiss previous, smaller demonstrations as staged by “ultraleftists” or disgruntled former party members, given its scale and intensity, the situation in Diepsloot was left in an interpretive vacuum for days. Who were the protesters, and how could residents be so ready to resort to violence and destroy public infrastructures? Through what interpretive grids could protest in the postapartheid period be rendered intelligible?

Initial media accounts of the protesters as irrational, faceless mobs soon gave way to interpretations translating them into more familiar vocabularies. As a media report by a prominent journalist put it, clearly in an effort to render Diepsloot and its predicament legible to his largely middle-class readership, the township was “not much like a luxury holiday resort” and could only be described as a “sprawling, dusty, rubbish-strewn area.”² This characterization, of course, described many places in South Africa and could not fully explain the situation. Meanwhile, government and ANC commentators cast the demonstrations in conspiratorial terms, arguing that the protesters had been incited by “outside forces” with criminal or even counterrevolutionary intent. Others suggested that the protesters had yet to learn the proper codes for civic engagement in a liberal democracy. Eventually, President Thabo Mbeki himself publicly deplored the residents’ lack of patience and understanding of the functioning of democracy. The protests thus also became an occasion to dispel latent anxieties over postapartheid state legitimacy and the rule of law by forcefully reasserting the state’s monopoly on violence; at issue here too was a battle over the intelligibility of state authority (Roitman 2005). Casting the protests as criminal rather than political acts served to transcend such uncertainties and re-established boundaries around the shape of legitimate civic behavior.³

The Diepsloot protest, as an event, shook the public imagination, precisely because it posed a challenge to the very project of postapartheid “transition.” Indeed, the protest challenged not merely a particular policy or a specific local councilor; more fundamentally, it challenged the dominant imaginary of South Africa’s liberal democracy, in which the political domain is clearly delimited, where violence is the prerogative of the state, in which citizens have “channels” of communication, and where a thriving public sphere provides the location for deliberation and debate. Thus,

2 Jeremy Gordin, “Diepsloot: Anatomy of an Abusive relationship,” *Sunday Independent*, July 11, 2004.

3 See here also Rosalind Morris’s discussion of the changing significations of “criminal” and “political” violence and its relation to state power (Morris 2006).

the protest could be seen as not merely a moment of opposition, but as an instance of what Rancière (1999) calls “disagreement,” that is, a challenge to the very terms and assumptions of an existing political language game.⁴ Perhaps most glaringly, the protests exposed the growing chasm between the ANC-led government and many poor residents of informal settlements and townships, and the declining capacity of the nationalist language of liberation to rein in discontents.

The standoff was eventually brought under control by a mix of police repression and attempts at conciliatory meetings with residents, but Diepsloot was only the spectacular beginning of a series of protests all over the country that would continue in the years to come. Year after year since then, demonstrations, “riots” and public violence have preoccupied state officials and the public imagination. Various initiatives to address them have been unable to stem the tide of discontents.⁵ By 2013, police statistics showed a massive incidence of protests while many journalists regularly called South Africa the “protest capital” of the world.⁶ Two years later, in 2015, the Gauteng Premier announced that the province was setting up “war rooms” in each municipality to deal with the protests directly.

Over time, the term “service delivery protest” has come into common usage, often entirely independent of the form or content of such protests. “Delivery,” the fetishized goal of the immediate postapartheid period, conjures up histories of unfulfilled expectations for transformation, but also narrowly circumscribes the terms through which such protests can be understood. Framed in this way, the protests become simple, if perhaps “unreasonable” and “impatient,” claims for material resources from the state, often linked to an assumed, deeply embedded “culture of entitlement” amongst residents of townships and informal settlements.

Less often remarked upon is the striking form many of these protests take and the centrality of infrastructure as both object and medium of making claims on the state: protesters have spilled sewage and rubbish in the streets, destroyed water tanks, blocked roads, and ripped out pipes and meters; indeed, it is often this feature that leads many commentators to see such protests as “irrational” outbursts. Less visibly, the postapartheid

4 See here also Agamben’s analysis of the protest at Tiananmen Square (Agamben 2000: 85–89) and Barry’s related distinction between politics and the political (Barry 2002: 270).

5 “War rooms set up to deal with service delivery protests in Gauteng—Makhura” *News 24*, July 21, 2015. This followed earlier measures, like the five-year plan proposed in 2013 by then Cooperative Governance Minister Sicelo Shiceka to “eliminate delivery protests by 2014.” See “Shiceka: No Service Delivery Protests by 2014,” *Mail & Guardian (Jobannesburg)*, October 21, 2009. For academic analyses of delivery protests, see, e.g., Alexander 2010; Atkinson 2007a; Booyesen 2007. For a particularly compelling analysis, see Von Holdt et al. 2011.

6 See here also recent ethnographic work on bureaucracy and material state practices (Das and Poole 2004, Gupta 2012, Hoag 2010, Hull 2012).

period has also been defined by widespread illicit acts involving infrastructures, such as the nonpayment of service charges, the bypassing, tampering, or destruction of water and electricity meters, and illegal connections to services. Such protests and popular illegalities often uncannily resemble the tactics of the antiapartheid struggle. Yet, today, they lack the political languages of liberation that authorized and gave them meaning in the past. In the absence of such larger narratives, nonpayment, illegal reconstructions, and violent protests are often framed by officials and the media as irrational, amoral, or criminal acts. Thus, they become the responsibility of the courts and a diverse array of experts, including engineers, utility officials, or local bureaucrats.

If violent protest is often indexical, an effort to “gain visibility” and to render “palpable” questions and concerns for which there is no space in the public sphere (Žižek 2007: 53), this book explores the terrain which these protests periodically catapult into the public imagination. As a political spectacle, the Diepsloot protest and its reception pointed to the gulf that divided the location of formal politics from a seemingly apolitical administrative terrain that makes up the experiential reality of many, especially poor, South Africans. If the normative domain of postliberation politics and civil society is located in spaces such as media and party offices or parliamentary and city council debates, everyday experiences of the state are often primarily shaped by waiting lists for housing, latent threats of evictions or forced removals, leaking pipes, inaccessible infrastructures, illicit electricity connections, intermittent and unreliable incomes, disability grant and indigency applications, and frequently unresponsive councilors and ward committees. This precarious terrain is connected to the state primarily via administrative bodies and is subject to their actions and discretionary powers, ranging from modest care to abject neglect and, at times, capricious intervention. These are places whose primary connections to the state are mediated by police, courts, utility officials, local bureaucrats, and, as I will elaborate in the chapters that follow, by technical-administrative devices such as meters, pipes, wires, and official documents and certifications.⁷ Here, as in many poor townships and informal settlements in South Africa, residents come into contact with and are interpellated by the state not only as citizens, but also, and often primarily, as members of “population,” entangled in administrative relations and procedures and the objects of governmental care or neglect (Chatterjee 2004).

This book explores how such administrative links to the state became a central political terrain during the antiapartheid struggle and how this

7 In May 2013, the Gauteng police commissioner announced that in the 40 days between April 1 and May 10, 2013, there had been 560 protests in Gauteng province alone. See Khadija Patel “Public Protests: Gauteng Pressure Cooker” *Daily Maverick*, May 16, 2013.

terrain persists in the postapartheid present. Infrastructures, fiscal relations, and judicial procedures thus emerge as sites in which the ethical and political questions once central to the antiapartheid struggle continue to be mediated, negotiated, and at times contested. In the paradoxical context of “liberation and liberalization” (Comaroff and Comaroff 2001), in which citizenship has been extended to an unprecedented number of people at the same time as the entitlements conferred by citizenship are often in question, I examine the techno-political forms and registers in which contemporary conflicts unfold and in which claims on the state are expressed. Given that the normative locations of politics are often *de facto* inaccessible to many poorer township residents and shack dwellers, this book attends to a politics that takes shape in less visible locations and in often unfamiliar technical forms. I explore this techno-political terrain conceptually, historically, and ethnographically, not only in order to understand the rise of protest in South Africa in more open-ended terms, but also because this terrain provides a productive vantage point onto a number of broader questions concerning formations of postapartheid citizenship, modes of narrating historical transformation, and conceptions of the political.

Below, I map the larger concerns that animate this book and the critical historical and conceptual problem-space in which my narrative unfolds. The next section introduces the small piece of infrastructure that became the lens of my ethnographic and historical research. I then provide a theoretical discussion of the concept of techno-politics developed in this book. The second half of this chapter sketches the paradoxical historical moment of the “transition” and its aftermath, which is the intellectual and political horizon against which the questions I ask throughout have taken shape and become intelligible.

THE SOCIAL LIFE OF A PREPAID METER

The chapters that follow explore a range of larger questions—about citizenship, social obligation, and the political—by historically and ethnographically following the life of a small device: a prepaid water meter. A prepaid meter is a device, which, apart from measuring networked services such as electricity, gas, or water, automatically disconnects users in cases of nonpayment. In order to access services, users have to purchase and load up credit tokens in advance, either by entering a numerical code or by using a magnetic key or card. Failure to do so results in immediate “self-disconnection.” While the meter is one of many increasingly sophisticated infrastructure technologies that mediate access to flows of goods, information, and money in many places of the world today, it is also a distinctly

South African thing.⁸ First deployed during the 1980s to help combat the antiapartheid rent boycotts, in the past two decades, and in a context of ongoing mass nonpayment and neoliberal reforms prescribing “cost recovery,” prepaid meters have become ubiquitous, making South Africa the place with the largest number of installed prepaid meters in the world. Although prepaid meters are increasingly also being installed in middle-class homes, where they are often preferred to untrustworthy municipal bills, for now the meters are primarily deployed in poorer, historically black townships and informal settlements. Beyond the by now standard prepaid cell phones, most residents in places like Phiri, Soweto, where I carried out much of my research, are now connected to electricity and often water via prepayment devices. “Living prepaid,” with often only temporary access to services and flows of water or electricity punctuated periodically by cutoffs, has thus become an increasingly normal condition for many poorer residents of informal settlements and townships.

Living prepaid mirrors life in a moment in which income has become precarious, where reliance on a regular monthly wage is the exception rather than the norm.⁹ Here, payment for basic services is no longer shaped by the cyclical temporality of regularly recurring monthly salaries and bills; instead, income as well as payment is often incremental and ad hoc. The increasing deployment of prepaid meters—and the end of monthly utility bills this entails—thus reflects larger temporal and experiential shifts in which access to services is unstable and where the threat of automatic disconnection due to nonpayment is always present.

Beyond structuring life temporally, the meters are also semiotic instruments aimed at shaping behavior, enforcing metrological scrutiny, and curtailing consumption. While the threat of cutoff is what makes many residents object to prepaid meters, it is paradoxically also this ability to prevent debts from accumulating that often makes them attractive. Prepaid meters, in this sense, are technologies of precarity that reflect the multiple dilemmas and vicissitudes of life after the “end of the salary” (Mbembe and Roitman 1996). Thus, they provide a window onto larger shifts in experiences of time, consumption, and life after formal employment.

Today, prepaid meters have become the normal state of affairs for many and are most often an unremarkable aspect of daily life. And yet, as

8 Such mediating devices include, for example, payment technologies (Maurer 2012), biometric technologies (Breckenridge 2014; Fassin 2011), logistics (Chalfin 2010; Cowen 2014), media technologies (Larkin 2008), but also less visible ones like sieves or spam filters (Kockelman 2013).

9 Conservative estimates put South Africa’s unemployment rate at about 25 percent, but in poor areas like Phiri this statistic often jumps to over 50 percent. Many people in places like Phiri, where I carried out much of my research, are reliant on government grants and informal and often intermittent forms of income. Franco Barchiesi (2011) has explored the increasing precarity of work and its consequences in South Africa.

I elaborate in this book, the meters continue to be unruly, periodically becoming the subject of public debate, protest, and legal action. They are also often bypassed or “bridged” by residents, making the meters useless and giving residents free access to services. Here, a technical politics develops involving engineers and residents in a battle over securing and bypassing the devices.

My focus on the prepaid meter as both an ethnographic object and an analytic vantage point is in part due to this ubiquity and political salience in South Africa. When I arrived in Johannesburg to begin my fieldwork, prepaid water meters were what most preoccupied social movement activists, affected Soweto residents, and what drew the attention of the media. However, beyond their ubiquity and political visibility, I focus on the meters also because of their peculiar techno-political history. As I explore in Chapter 4, the prepaid meter was first invented in nineteenth-century Britain to extend gas to the working classes. Then called “penny-in-the-slot-meter,” it became integrated within the larger Victorian project of moral reform and working class “improvement.” In the 1980s, the prepaid meter was appropriated and redeveloped in South Africa by apartheid-era engineers as a technical tool to counter the antiapartheid “rent boycotts.” Renamed the “Budget Energy Controller,” and used primarily for electricity, it was deployed, in the words of one apartheid-era bureaucrat I spoke to, as a “political technology” that was specifically designed to break the boycotts. It is this techno-political history of the meter in the late-apartheid period that has ironically turned South Africa into a global industry leader in the development of prepayment technology and one of its primary exporters in the aftermath of apartheid.

Following the travels of a small technical device, and the social worlds it is shaped by and that it in turn helps shape, reveals the continuities between the late and postapartheid formations and the manner in which this administrative-technical history continues to shape the present. Indeed, I suggest that this focus on infrastructure and, more specifically, on a seemingly ordinary technical device, provides an epistemological vantage point onto the disjunctures of democracy after apartheid and a different way of thinking about the periodization and multiple temporalities and experiential realities of “transition.”

The chapters that follow explore this domain of the administrative not primarily as a site of economic deprivation, nor as one defined solely by sovereign violence or abandonment, which is how residential spaces of the poor have often been analyzed, but as a techno-political terrain on which central questions of the antiapartheid struggle are continually reformulated, negotiated, and at times—and often via series of protracted detours—resolved; a terrain where the distinction between the political and the administrative is often blurred. This terrain is at once a pedagogical ground to make and unmake political subjectivities in the aftermath of apartheid and a site of

disagreement at which questions of needs, belonging, and citizenship are negotiated and sometimes contested. Thus, in the many instances I analyze in this book, the administrative is a location in which the *work of making liberal democracy* occurs and where its fault lines and failures become apparent in ways ranging from the spectacular to the mundane.

This politics in the register of the administrative is not deliberative, detached, or unencumbered, as in the idealized public sphere proposed by political theorists, most centrally by Jürgen Habermas (1989); nor is it by definition a “counterpublic” that would define itself directly and self-consciously against a more dominant public, as described, for example, by Nancy Fraser (1990). Indeed, as I elaborate below, in many instances, this is a politics defined precisely by the absence of a public or by its fundamental redefinition, often through material, sensory, and affective forms. This book explores how this terrain is constituted historically from the late-apartheid period to the present and how, against the backdrop of an increasing obsolescence of older modernist political idioms, a particular, often technical or nonpublic form of politics emerges from it.

“Democracy’s infrastructure,” then, is at once a metaphor for the diverse ways in which democracy is grounded in and stabilized by seemingly apolitical technical means and an ethnographic object of investigation—socio-technical assemblages made up of pipes, wires, and meters; the ethical regimes and techno-political calculations through which they operate; and the modes of politics they enable and afford.¹⁰ Exploring democracy from the perspective of its infrastructures thus also reframes the conventional story and periodization of South Africa’s “transition.”¹¹ In turn, this infrastructural perspective opens up conceptual space for a more expansive theory and vision of what it means to act politically in the postcolony and beyond (Mbembe 2001).

TECHNO-POLITICS: INFRASTRUCTURE AND THE MATERIALITY OF POLITICAL CLAIMS

The story I tell in this book is at one level a distinctly South African story, one that is located conjuncturally in between the late and postapartheid periods. And yet, South Africa, as in so many other instances, also emerges here as a productive epistemological location—that is, a location that

10 My use of the term “socio-technical assemblage” is inspired by actor-network theory (cf. Callon 1986; Latour 2005) and by anthropological extensions of this concept (Collier and Ong 2005).

11 See recent scholarship that has called for a rethinking of the historiography of the antiapartheid struggle (see, e.g., Lalu 2007, 2009; Pillay 2009).

enables us to think differently about contemporary analytic problems, that provides critical purchase on questions with a longer historical arc and that, in turn, holds broader significance in relation to the conceptual and imaginative horizons of how we study and conceive of the political.¹² In particular, by focusing on the infrastructural and the technical as modalities of political action, this story unsettles conventional and normative accounts of the political as existing in a separate domain, marked by “free” circulation, rules and norms of “civil” engagement and attendant behaviors.

My analysis is inspired by recent scholarship that has urged a rethinking of liberal-secular accounts of the political, by exploring affective, embodied forms of political subjectivity and focusing on new locations of ethical and political formations that are often below the threshold of visibility for normative conceptions of political action (Connolly 2002; Hirschkind 2001; Mahmood 2005; Valiani 2011). Here, the political is not delimited in a sphere beyond the private concerns of daily life, nor does it necessarily take the form of public deliberation or demonstration. If, as much scholarship has suggested, infrastructures are not simply neutral conduits but instead central to the constitution of modernity in a diversity of ways—fashioning socialities, subjectivities, and affective capacities (Edwards 2003; Larkin 2008)—an ethnographic approach to this politics of infrastructure, I suggest, similarly opens up conceptual and methodological space for an exploration of forms of the political that take shape outside its conventional locations and mediations.¹³

Such a rethinking of normative liberal accounts of the political is particularly important in postcolonial contexts, in which the formal political sphere, itself in part a legacy of colonial modes of government, is often inaccessible to large sections of the population—from the residents of informal settlements to the informally employed or those subject to “traditional” authorities or clientelist relations. As Partha Chatterjee (2004) contends in his account of “political society,” here, central political questions are often contested via administrative connections to the state, such as the provision of housing or basic services. In such contexts, the political emerges not in what is normatively assumed as the political sphere; rather,

12 For larger arguments on the global south as an epistemological location of innovation, see Comaroff and Comaroff 2012, Ferguson 2006, and Mbembe 2014.

13 As many accounts suggest, infrastructure is precisely that which remains invisible and only becomes visible when it breaks down (cf. Graham and Marvin 2001; Star 1999). And yet, such breakdowns too are often a “normal” part of infrastructure, in particular in the global south (Larkin 2008). It can also, as I suggest here, be purposefully rendered visible and turned into a “matter of concern” (Latour 2004) through protest. For recent ethnographic work on infrastructure, see Anand 2012; Appel 2012; Bjorkman 2015; Carse 2014; Chalfin 2014; Collier 2011; Elyachar 2010, 2012; Fennell 2015; Fredericks 2014; Harvey and Knox 2015; Hetherington 2014; Heiman 2015; Kockelman 2010; Larkin 2008; Schwenkel 2015; von Schnitzler 2008, 2013. For an overview, see Larkin 2013.

it is at *the level of administration* where political questions are often de facto engaged and negotiated.

While Chatterjee urges us to recalibrate our understanding of the locations of postcolonial democracy, here, I focus on the material terrain and technical forms of engagement that define this administrative register. My account builds on and extends theorizations of techno-politics by Gabrielle Hecht (2009, 2012) and Timothy Mitchell (2002, 2011) that have productively analyzed the imbrication of the political and the technical. In Hecht's and Mitchell's theorizations, the concept of "techno-politics" refers to the ways in which political actions are embedded within technical forms and, conversely, the ways in which the technical shapes political questions. Thus, techno-politics may denote the ways in which large-scale engineering or infrastructure projects function as vehicles or expressions of larger political goals and forms of power, but it also and more broadly foregrounds the materiality of politics and political expression (Barry 2001, 2013; Bennett 2009; Braun and Whatmore 2010; Winner 1980).

In the chapters that follow, I explore a more micro-political and mundane form of techno-politics. At once less grandiose and more embedded within life's everyday fabric, this techno-politics unfolds in smaller and more intimate domains and involves the shaping of subjectivities, practices, and dispositions.¹⁴ Focusing on a small mediating device like the prepaid meter not only opens a vista on the transformations such devices may produce in households and subjectivities, but also on a number of larger questions concerning citizenship and belonging. Embedded within technologies like the prepaid meter are ethical and political visions and expectations; they are scripted with anticipations of users' behavior (Akrich 1992; De Laet and Mol 2000; Latour 1992). And yet, such technologies are also "unstable" objects (Larkin 2008); once they leave their makers, they can be retooled for other ethical and political projects and reimagined to do work within a multiplicity of formations.

From its beginnings in the nineteenth century as a moralizing device to its apartheid reinvention as a technology of counterinsurgency, the meter has more recently become part of new ethical imperatives in the context of neoliberal reforms and demands for environmental sustainability. Thus, it participates in a larger shift toward the increasing investment and trust in small technical devices to effect dramatic change. The last thirty years have witnessed the growing popularity of smaller-scale and temporary techno-political solutions to questions previously considered structural. Small devices appear technical and neutral, rather than substantive. They are less ambitious, less permanent, and often remain agnostic about long-term goals,

14 I am here inspired by ethnographic studies that have explored how technology mediates subjectivity, ethics, and new forms of social life; see, e.g., Boellstorff 2008; Coleman 2012; Dow Schull 2012; Kelty 2008.

frequently giving up on the sorts of knowledge claims and future horizons that defined modernist development projects. In this way, they are part of a wider shift from large state projects to more micro-logical forms of intervention that define both neoliberal and humanitarian projects.¹⁵ Indeed, such small-device heuristics bear more than a family resemblance to neoliberal epistemologies that give up on the ability of collective knowledge and radical social transformation. Such neoliberal forms of reasoning often recode prior political techniques rather than inventing new ones from scratch. They work on existing realities rather than aiming to build them from the ground up, as was the *telos* of most modernist varieties of development, and they “re-program” rather than change the whole hardware or system (Collier 2011).

Following the travels of the meter genealogically, I explore the assemblages of ethics, politics, and technics through which such moments are constituted. I trace how infrastructure is “inscribed” with and comes to mediate a diversity of competing ethical projects, political disagreements, and subterranean conflicts that often concern central questions of civic virtue, social obligation, and the rights and duties of citizenship.¹⁶ Thus, rather than simply or solely a conduit for power, in the politics of meters, pipes, or wires—and the fiscal, judicial and socio-technical practices that subtend them—infrastructure itself becomes a political terrain on which such questions are negotiated and, at times, contested. Here, the political is mediated and becomes manifest in different material forms. It is these diverse forms and modalities of politics that this book explores.

APARTHEID TECHNO-POLITICS

The rise of modernity is often associated with the increasing centrality of technics and the forms of thought, habits, and sociality produced by them.¹⁷ From the nineteenth century onward, large technical systems were both tools and symbols of modernizing state projects that became increasingly

15 Peter Redfield (2012), for example, analyzes humanitarian “life technologies,” whose minimalist design aids a correspondingly “minimal biopolitics” that is no longer tethered to state infrastructures or long-term visions. Stephen Collier (2011) associates neoliberalism with “microeconomic devices” that enable the “re-programming” of older infrastructures, rather than their complete overhaul or rebuilding, while Michel Callon et al. (Callon et al. 2007) focus on “market devices” as key instruments for the constitution of market relationships.

16 See Madeleine Akrich’s and Bruno Latour’s work on this semiotic-material conception of inscription (Akrich 1992; Latour 1992).

17 Indeed, much of the philosophical critique of modernity from Heidegger (1977) to the Frankfurt School has precisely focused on the increasing importance of technics and the instrumental rationality associated with it (Horkheimer and Adorno 2002; Habermas 1971; Marcuse 1964).

linked to ideals of national progress and the integrated, networked city (Graham and Marvin 2001; Hecht 2009; Hughes 1999). At the same time, networked municipal services—centralized water, gas, and electricity provision in particular—and the relationship between state and citizen they construct were bound up with the rise of “population” as an administrative category of government distinct from, yet mapping onto, the juridical subject of sovereignty. In a context of industrialization and rising labour mobilization, “the social” became both a way of making such conflict intelligible and a distinctive terrain open to intervention through a multiplicity of programs, mechanisms, and techniques (Donzelot 1988; Hacking 1990). In this context, municipal infrastructure materially mediated a biopolitical relation between state and population through which the latter was rendered both measurable and subject to regulation (see also Joyce 2003; Otter 2007). Pipes, wires, roads, and rails increasingly linked up all citizens in what Graham and Marvin (2001) have called the “networked metropolis.”

Colonial modernity was similarly materialized and instantiated via infrastructures and technics. Unlike in Europe, where infrastructure was often tied to the rise of a regime of modern citizenship, infrastructure in the colonies was primarily linked to processes of extraction and a biopolitics closely bound up with the project of colonial domination. The biopolitical connection between the state and its subjects preceded the connection of political representation—“population” preceded “the people” as a juridical subject (Chatterjee 2004). Colonial infrastructures became a means to extract resources while also constituting colonial territories as unified, governable spaces. Indeed, the “operation of the colonial state became deeply enmeshed in a network of technological apparatuses, institutions, and practices” (Prakash 1999: 161).¹⁸

In several ways, apartheid as a political project similarly depended upon and was conjured into being by specific infrastructural modalities of power. This was particularly so in the urban areas, in which, following the ideology of grand apartheid, black residents were stripped of citizenship and designated “temporary sojourners” whose permanent home and political representation were envisaged to ultimately be in the rural Bantustans. Infrastructures became both symbols and conduits of apartheid state power, but they also shaped habits and the senses. Such infrastructural modalities of power thus operated at a number of distinct registers that ranged from the symbolic, to the biopolitical and the sensory. Together, they produced a very specific political terrain, one whose remains shape the contemporary politics of infrastructure.

18 For a range of literature on colonial infrastructures, see Adas 1990; Bear 2007; Goswami 2004; Larkin 2008; Prakash 1999; Redfield 2002.

This imbrication of the technical and the political took a number of forms. First, and most visibly, apartheid was infamously symbolized via its infrastructures. Think of the segregated public transport and amenities, the jarring images of race-specific entrances or “whites only” benches that came to metonymically represent the injustices of apartheid. Here, infrastructure and access to them became subject to juridical regulation by the battery of racial legislation that defined the early apartheid period, most symbolically charged, in the Reservation of Separate Amenities Act of 1953. Beyond the symbolic, however, apartheid was also, and more basically, made functional via its infrastructures insofar as apartheid rested on a grand scheme to channel and police mobility. Indeed, it could be argued that apartheid was precisely *about* infrastructures. “Separate development” meant the use segregated infrastructures—from schools, to transport or public spaces. It also entailed the production of a racial economy, which depended on the infrastructure of the pass law system by which millions of people were channeled via labor bureaus, rail tracks, and passes to factories, mines, and farms, to scientifically manage labor supply. This system, in turn, was predicated on innumerable technologies, large and small.

Apartheid, as a racist state project built on what Stephen Gelb (1991) called “racial Fordism,” aspired to create a thoroughly engineered society, founded on a trust in numbers and techno-scientific expertise.¹⁹ Indeed, apartheid was unthinkable without the administrative power of large parastatals, the technical forms of accounting, measurement, and identification that defined the labour bureau system, and the techno-science of race and identity on the basis of which groups were often created and managed.²⁰ In a great variety of ways, apartheid infrastructures thus worked not merely to enable circulation—which is what we often think infrastructures are primarily designed to do—but as much to impede, prescribe, and prompt movement.

As Ivan Evans (1997) has argued, apartheid’s form of rule was distinguished from its segregationist predecessor by its focus on the administrative powers of the local state. In the urban areas more specifically, Evans pointed to the centrality of infrastructure in containing black opposition. After the appointment of Hendrik Verwoerd as Minister of Native Affairs,

19 Gelb’s term “racial Fordism” describes the distinct organizational form of the apartheid economy, that followed the Fordist model organizationally, but without being based on mass consumption, as the consumer goods market was initially largely limited to the white population. On the question of measurement and number, see Theodore Porter’s discussion of “trust in numbers” and Posel’s analysis of the “mania of measurement” that defined apartheid (Porter 1996; Posel 2000). See Breckenridge (2014) for an analysis that complicates previous arguments in relation to the capacity and effects of such state knowledge practices.

20 On large parastatals see Clark 1994 and Sparks 2013. For an account of the technologies of the pass law system, see Breckenridge 2014; Hindson 1987a; Posel 1991. On apartheid techno-science, see Bowker and Star 2000; Dubow 1995; Edwards and Hecht 2010.

“native administrators became deeply enmeshed in providing cheap, mass-produced housing, public utilities, and mass transport to the African working class,” which in turn was central to “disorganizing African opposition” (Evans 1997: 7). In this way, infrastructure and urban planning also became central to the production and maintenance of race and racial categories.²¹

With the multiple ways in which this apartheid techno-politics produced and sustained this system, there also came particular ways of being in the world. In the absence of political rights, township residents experienced the state primarily via administrative connections. The state was made manifest in the most spectacular fashion via its repressive policing powers and the racist necropolitics on which it relied throughout (Mbembe 2003). But in its various local guises, the state was also the provider and landlord of plots and houses, infrastructures and basic services, and collector of payments and rents. Thus, apartheid was not only an ideological and repressive project, it also helped bring into being much more mundane modalities of power and modes of existence that produced a set of habits, sensory environments, and forms of sociality.²²

As Jacob Dlamini (2009: 129) suggests, being in the urban areas was also a “felt experience” that in turn produced “embodied memories.” This was particularly true for the early African migrants to the city who “spoke of [the urban experience] as a series of new sounds, smells, textures, tastes and sights” (ibid.). But it continued to shape the urban experience throughout the apartheid period, as infrastructures and associated bureaucratic procedures played an ever-increasing role in shaping these more sensory and embodied experiences of state power.

If apartheid infrastructures were often primarily designed to prevent the emergence of a (counter)public, this was most obvious in the mass building of townships from the 1950s as spaces intentionally without important city features. Conceived as mere dormitories for laborers and built far away from the white city centers, the townships had no plazas or public squares, and business operations, if they existed at all, were heavily restricted. Instead of building and supporting a public, infrastructures often followed a security or military logic (Robinson 1996). The grids of streets were planned such that they could be easily surveilled and closed off. Within the townships, radial roads led to spaces built specifically to be used as potential weapon arsenals in case of protests. Similarly, electricity cables were

21 For further literature on this link between race, infrastructure, and urban planning during the period of segregation and early apartheid, see Parnell and Mabin (1995); Robinson (1996); and Swanson (1977).

22 See here in particular recent fictional and autobiographical accounts, e.g., Jacob Dlamini’s *Native Nostalgia* and Ivan Vladislavić’s *Portrait with Keys: Joburg & What-What*, but also the large body of South African urban social history (Bonner and Segal 1998; Mabin 1992; Gaule and Nieftagodien 2012) and architecture (Judin and Vladislavić 1998).

first extended to the townships to service tall flood-light poles to facilitate surveillance at night. Only much later, and in a shift toward more biopolitical and commercial concerns, did residents of townships receive electricity in their homes.

During the successive states of emergency in the 1980s, this link between infrastructure and security intensified, as emergency provisions gave the military powers to “assume jurisdiction” over basic services, such as water and electricity (Murray 1987: 249), and evictions were increasingly carried out in the presence of the military and security forces. Here again infrastructures were used not to produce or to maintain a public, let alone a postapartheid nation; on the contrary, apartheid infrastructures were deployed to prevent a public from coming into being.²³

To some extent, if in a very different way, this absence of a public also came to define the wealthier white suburbs which were also, if of course much less severely, marked by the absence of certain public infrastructures. The apartheid state invested heavily in the white areas. And yet, in terms of their use, infrastructures were often *de facto* privatized. For example, given the reliance on cars, there were often few street lights or full pavements. Parks and other public spaces were relatively unimportant, because most whites had access to and preferred the safety of backyards or indeed large gardens or private country clubs. And yet, even in the absence of pavements, the streets became locations for domestic workers to congregate and socialize during break times, and this is how they are used in many areas to this day. Indeed, many of these separations introduced in the apartheid era continue, in part because of the intransigence of infrastructure (Collier 2011).

Given these multiple ways in which infrastructure symbolized, produced, and secured apartheid, and given the absence of a legitimate formal political sphere, it is unsurprising that the antiapartheid struggle unfolded on a similarly infrastructural terrain. Although the liberation movement became known internationally for its nationalist demands for political rights, it was often organized through localized struggles, many of which took infrastructure as both object and terrain of struggle in a wide variety of ways. Through actions by the armed wing of the ANC, such as the spectacular bombings of rail tracks, power plants, or, infamously, the Sasol oil refinery and the Koeberg nuclear power station, infrastructures became part of a symbolic form of guerilla warfare. On a less spectacular scale, but often more effectively, the burning of passbooks, perhaps the most iconic instantiation of grand apartheid, similarly operated on this symbolic plain.

23 And yet, as later chapters elaborate, such spaces often provided the grounds for the development of counterpublics, in particular in the context of the antiapartheid struggle (cf. Ashforth 2005; Dlamini 2009). Moreover, in the absence of certain key infrastructures informal forms of infrastructures proliferated (cf. Simone 2004).

But infrastructure also became a political terrain in much more mundane and less symbolically evident ways, from bus and rent boycotts to the non-payment of service charges and multiple small acts of sabotage. Such “popular illegalities” often remained on a murkier administrative terrain.²⁴

If bus and rent boycotts, the nonpayment of service charges, the burning of passbooks, and small acts of sabotage were central in politicizing seemingly neutral, technical-administrative links to the state, they were also sites for the cultivation of political subjectivities, not merely or even primarily in the form of ideology, but also in the production of oppositional habits, affective attachments, and embodied stances of defiance against the state. Such protests and small acts of sabotage were often highly localized affairs, triggered by specific events or mundane complaints, such as a rate hike or the threat of an eviction; frequently they were direct responses to the everyday violence of apartheid.

Over time, the liberation movement often subsumed such localized protests, boycotts and popular illegalities within the larger progressivist *telos* of liberation, re-articulating them in a modernist nationalist language and ascribing to them an intentionality and historicity that at times differed from the residents’ own experiential realities and multiple forms of reasoning for engaging in them. Partly because of its rationalist-modernist conception of politics, the liberation movement expected that such illegalities and protests would end or could simply be switched off after the first election. Given that all South Africans now had full citizenship rights, so the reasoning went, they would now also refrain from such “criminal” activities.

And yet, such acts and protests continued or re-emerged in a multiplicity of ways. In the absence of the authorizing language of liberation, protests and acts of evasion are today often coded by officials and the media as criminal, irrational, or simply self-interested acts. Thus, nonpayers today are no longer “rent boycotters,” but “free riders” or “economic saboteurs.” They no longer negotiate with government over payment, but are adjudicated in courts of law. The insurgent politics of the struggle is here reframed within a liberal-secular politics; that is, a politics in which the political and the administrative spheres are clearly distinguishable, where violence is the prerogative of the state, and where the foundations of law are no longer in question.

This moment in the 1990s was often framed in the grammar of a globally circulating post-Cold War discourse of “transition”; and yet, this way of emplotting liberation could not quite capture the intransigence of apartheid that hovered just below talk of “reconciliation” or the “rainbow

24 The term “popular illegalities” is used by Foucault (1977) in *Discipline & Punish* and usefully taken up by Greg Ruiters (2007) in relation to South Africa. Jeremy Seekings (1988a) refers to the “hidden forms” of resistance during the antiapartheid struggle, as I elaborate in Chapter 3.

nation.” Indeed, it could not apprehend the administrative-infrastructure terrain, the affective registers and embodied stances toward the state that lived on after the end of apartheid, what one might, borrowing from Ann Stoler (2013), call “apartheid’s debris.”²⁵ It is for this reason that infrastructures provide a productive vantage point to foreground these registers and to make apparent the *work* of *making* liberal democracy, work that is often incomplete and defined by failures as much as successes.

MAKING CITIZENS: “TRANSITION” AND THE WORK OF MAKING LIBERAL DEMOCRACY

For much of the twentieth century, equal citizenship was the central demand and aspirational horizon that animated a diversity of movements. Such demands were articulated as claims to national self-determination in the colonies and, especially in former settler colonies, as demands for recognition and full inclusion within a larger political community. Citizenship held out an emancipatory hope, one often closely linked with the successive achievements of rights as mapped out by T. H. Marshall (1992) or, in the case of the South African liberation movement, in socialist-inspired terms.²⁶ Viewed from this longer historical arc, the moment of liberation in South Africa was symbolic for the end of an era of juridical distinction between citizens on the basis of race.

And yet this conjuncture was paradoxical. It was a moment when the imagined future came to pass at the same time as any imagination of a future outside of liberal democracy came to be viewed as an anachronistic oddity (Scott 2014). By the time South Africans attained full citizenship in 1994, liberal democracy had not only become a globally normalized and normative condition, it had also been firmly anchored to and signified within a larger neoliberal project that became hegemonic in the aftermath of the Cold War. The triumphalist rise of liberal democracy to global hegemony provided the dominant idiom through which transitional projects

25 For Stoler, “imperial debris” references “the longevity of structures of dominance, and the uneven pace with which people can extricate themselves from the colonial order of things” (Stoler 2008: 193). For a close exploration and theorization of apartheid’s remainders, see Chari (2013, 2014). For other recent ethnographies that focus on (post-)colonial remainders, see Hansen (2012) and Obarrio (2014).

26 T. H. Marshall’s account is relevant in particular for the ways in which it narrativized citizenship in teleological terms, as a story of an increasing addition of rights, from civil to political and, finally, social rights. It is this story that also has often shaped the activist imagination.

could be authorized, in the process often foreclosing other ways of conceiving of political community.

In the immediate aftermath of liberation, a mass of scholarly and technical writing appeared that narrated this moment as one of “transition.” This was a globally mobile literature peculiar to the post–Cold War moment, which rendered commensurable political change in places as diverse as Russia, Latin America, and South Africa. In framing the widespread emergence of liberal democracy in terms of transition, this literature—at its most polemic with Fukuyama’s “end of history” and Huntington’s “third wave of democratization”—suggested an inevitable *telos*, a modular notion of change that rendered the obstacles in its way primarily as procedural and technical. In this triumphalist moment, it divided the world into successful liberal democracies and countries on their way there.

Much justified criticism has been launched against this literature, its teleological hubris and glaring omissions (see, e.g., Burawoy and Verdery 1999). And yet, “transitology,” as the academic subfield came to be known, did not merely gloss over more complex realities in its specific account of the end of apartheid. As a concept mobilized in this fraught moment, “transition” had a performative dimension with practical consequences. Much as Michel Callon (2007) has argued for economics, political science did not merely describe reality but, via its various subfields, actively helped make it. “Transition” as a concept entailed the mobilization of a whole field of academic-technical knowledge that shaped new ways of apprehending the social and new forms of intervention. From conflict resolution and trauma experts, to legal and constitutional reform initiatives, transitional justice mechanisms and numerous consultants working out the reform and restructuring of governmental institutions, “transition” enabled and produced reality, rather than merely describing it. In South Africa, a whole array of NGOs and development consultancies sprung up while older organizations of the liberation movement were retooled toward new goals (for example, creating a “culture of human rights” instead of the previously ubiquitous “advancing people power”). This was a transnational field flush with donor monies, deploying a globally mobile expertise that could be made operational in any context deemed “emerging from authoritarian rule.” Transition expertise shaped not just the discourses of the futures available for the new South Africa, but also its political and legal institutions and the organization of “civil society.”²⁷

27 One might think here of the diverse ways in which survivors of apartheid-era violence became “trauma patients,” or the ways in which institutions like the Truth and Reconciliation Commission adjudicated the distinction between criminal and political behavior, in the process producing particular postapartheid subjects (e.g., “survivors”) and a larger normative vision; see Buur (2001), Kistner (2003), Ross (2003), and Wilson (2001). See also Heinz Klug’s (2000) discussion of the “global constitutionalism” and its impact on South Africa and Julia Hornberger’s work on human rights and policing (Hornberger 2011).

And yet, the capacity of such expertise was always limited. If “transitology” was central in shaping the larger institutional and discursive terrain within which South Africa entered the end of apartheid, the *work* of making democracy went far beyond such broad-stroke activities and the grafting of liberal institutions and terminology onto the fraught postapartheid terrain. Indeed, it is precisely the speed with which South Africa became, in Neville Alexander’s (2002) felicitous term, an “ordinary country” that belied the extent of transformative labor required to make liberal democracy including, crucially, liberal citizens.²⁸

Most importantly, as I elaborate in Chapter 3, this project ultimately came to focus on the reform of existing political subjectivities and of the stances, affective investments, and embodied memories of relating to the state. These kinds of labors could not be performed by global experts, in part because in the rationalist-instrumentalist matrix through which such experts viewed the world, historically constituted political subjectivities were difficult to discern as “problems.” They could not, for example, apprehend the often sharp disjuncture between experiences of national and urban citizenship—what Ivor Chipkin has called the “non-identity between the national and the local state” (Chipkin 1995:38)—that is a legacy of both apartheid modes of governing the townships and of the specific manner in which the antiapartheid struggle unfolded. In this book, I trace the more piecemeal, micro-political and often subterranean strategies required to “make” citizens. I explore the techno-political *work* of producing and maintaining liberal democracy, and the simultaneous failures and transformations of this project in a context of neoliberal reforms, on the one hand, and the legacies of apartheid, on the other.

In the liberal political imagination, the achievement of citizenship is often understood as the conferral of political rights upon an unmarked individual. Neglected in this story is the extent to which citizens are not “a priori moral subjects,” but actively formed and shaped (Burchell 1995:549). As David Burchell argues in his study of the formation of early modern citizenship, “citizenly self-cultivation” had to be carefully manufactured, including an emphasis on secularization, self-discipline, and the overlaying of the concept of virtue with an idea of “manners” (Burchell 1995: 449; see also Hirschkind 2001; Pocock 1985). Citizenship, Burchell shows, entailed more than simply a juridical category or a set of procedural practices, but comprised a certain number of historically contingent assumptions about the kinds of behaviors, dispositions, habits and virtues that define relationships to the state in a context of modernity (see also Isin 2002). In much of Europe and North America, this fashioning of the modern citizen took

28 As Chipkin (2013) suggests, the ANC relied on its own nonliberal understanding of democracy, the state, and politics, which in the aftermath of apartheid increasingly clashed with liberal conceptions.

shape in various ways over centuries, via a diverse range of disciplinary and governmental forms, and is indeed an ongoing, iterative project.²⁹ Similarly, in the postcolonies, producing the nation and its citizens has been an aspiration and ongoing process, rather than an achievement, one often defined by continuities with the colonial forms of governing and the violence that preceded it.³⁰ Indeed, liberalism, in both its metropolitan and its colonial iterations, *required* a diversity of (often decidedly illiberal) mechanisms, techniques, and pedagogical interventions that would enable particular citizen-subjects to emerge (Mehta 1999; Scott 1999).

In postapartheid South Africa, having come “late to the table of the comity of nations” (Alexander 2002: 1), this process of constructing liberal democracy—and of “making citizens”—involved a dramatic transformation of the relationship between society and state, at least formally. Most important, the establishment of a new political regime, and the shift from antiapartheid movement to governmental authority this entailed, necessitated the institution of new forms of conceiving of and practicing the political (Adler and Steinberg 2000; Chipkin 2003). As Timothy Mitchell (1999) has suggested, the “state effect” is achieved via the performance of an internal boundary between society and the state; in postapartheid South Africa, much work was required to redraw this boundary so that the new political regime could be differentiated from the old, and the liberation movement could be turned into a governmental body. By extension, an important aspect of reform involved the resignification of particular behaviors and stances, and their reclassification within a new grid of intelligibility that would clearly separate the political from other domains.

Behaviors previously sanctioned as legitimate tools of the antiapartheid struggle (from nonpayment to petty sabotage or evasion and various types of violence) were now viewed as apolitical acts (such as crimes, misdemeanors, or behavioral pathologies) to be rectified by administrative action (the police, courts, and the health and education systems). Achieving such transformations required more than institutional reforms, and included much more subtle modalities of change, such as public rituals of resignification, obvious examples being the symbolic work of the Truth and Reconciliation Commission, the popular distribution of the new constitution in small booklets, or publicity campaigns urging township residents to join

29 These projects have been analyzed in a multiplicity of ways, including most prominently, Althusser’s analyses of ideological state apparatus (Althusser 1971), Foucault’s studies of the disciplines and governmentality (Foucault 1977, 2008), and more recent elaborations of ongoing projects to make citizens (e.g., Cruikshank 1999; Donzelot 1988; Hacking 1990; Rose 1999). See also Norbert Elias’s analysis of the “civilizing process” (1982).

30 The precise nature of postcolonial continuity and disjuncture is the subject of much debate (cf. Chatterjee 1993; Cooper 2002; Mamdani 1996; Mbembe 2001; Roitman 2005; Scott 1999).

the reconstruction effort (Comaroff and Comaroff 2006a). Less visibly, it required the establishment of new political ontologies and metrologies, that is, a new ordering of political concepts, meanings, and norms.³¹ An important aspect of such reforms was the resignification of concepts that were central to the liberation struggle. Freedom, democracy, rights, violence, and, indeed the concept of politics itself were—often ambivalently—transformed from the insurgent significance of the struggle against apartheid and reformulated within a liberal democratic frame.

But these reframings were not merely symbolic or discursive, nor were they purely institutional or procedural. They also required countless piecemeal interventions that involved technics, matter, and bodily transformations. Perhaps the most important task in the postapartheid period was to reform ethical and political habits, attitudes, and stances.³² This entailed stripping the political content from certain dispositions and behaviors, which had been politically significant during the antiapartheid struggle. Thus, in the moment when black South Africans were officially recognized as political beings, many of the domains and modalities through which they had often asserted and claimed this status during the antiapartheid struggle were now deemed apolitical. This discursive-material reframing happened at a variety of registers and in a diversity of arenas, most centrally in the conception of violence and its legitimacy (cf. Von Holdt 2013). Given their centrality to both apartheid modalities of governing urban areas and to the multiple forms of resistance with which they were met, this book examines payment, basic services, and infrastructures as key sites of this form of techno-politics. Infrastructure—conceived here broadly as socio-technical assemblages of materiality, discursive, fiscal, and organizational forms and relations—thus becomes both a site and a vantage point to track this techno-political work of making democracy.

MAKING CITIZENS IN NEOLIBERAL TIMES

Projects of resignification and reform have been common in most post-independence or postrevolutionary moments; however, in a context of widespread neoliberal reforms, such modernist projects of nation building

31 The concept “political metrology” is inspired by Andrew Barry’s theorization of “metrology” and “metrological regimes” (Barry 2006; 2002) on the one hand, and, on the other, by Annemarie Mol’s notion of “ontological politics” as a politics “to do with the way problems are framed” (Mol 2002: viii).

32 Such projects to produce “moral citizens” in South Africa have been insightfully explored by Ivor Chipkin (2003) in relation to housing and by Kelly Gillespie (2008) in relation to prisons and the post-apartheid moralization of security.

became both problematized and significantly transformed. For much of the twentieth century, state-centric paradigms of social citizenship dominated not just state techniques and political rationalities, but also often animated and inspired the imagination of social movements and activists making claims on the state. This interventionist mode of social government had as its *telos* the horizontal integration of the nation and as its object “the economy” (Mitchell 2002, 2011). It was also defined by an allied set of techniques that included solidaristic mechanisms such as insurance, cross-subsidization, and social security. In Europe, and to a lesser extent in the United States, welfare, Keynesianism and the New Deal produced particular regulative environments, while in much of the global south, the developmental state was seen to fulfill a similar function, albeit one often linked to modernization projects or more socialist-inspired forms of state-led development. Such projects of nation building were tied to and relied on large-scale infrastructures and associated governmental techniques. In South Africa, this paradigm inspired the liberation movement in a variety of ways, perhaps most iconically in the 1955 Freedom Charter that laid out a nonracial, democratic future when South Africa would be governed by “the people” and a public program of services and redistribution via nationalization would end inequality.

Yet, beginning in the 1970s and intensifying in the aftermath of the Cold War, this understanding of the state as a central agent in development waned rapidly. While in Europe and the United States welfare was increasingly seen as overly bureaucratic and productive of dependent citizens, in the global south the growing dominance of neoliberal reform initiatives—often enforced by structural adjustment programs—led to the designation of the state as the primary obstacle to development. By the end of the Cold War, many of the postcolonial projects of emancipation were in disarray, while the futures that animated them increasingly appeared far removed from the reality that came to pass (Ferguson 1999; Piot 2010; Scott 1999).

Viewed against the backdrop of this history, the moment of liberation in South Africa took shape at an ambivalent juncture. It was simultaneously the last nationalist project to succeed a minority government on the African continent and the first to do so under dramatically transformed conditions in which the modernist dreams of anticolonial nationalism had been shattered in many places. Most South Africans thus gained full citizenship in a moment in which there were increasing doubts globally about what exactly this status conferred beyond the right to vote. In the chapters that follow, I explore how both the task of making citizens and the grounds for making claims on the state have been transformed at this paradoxical juncture.

A large ethnographic literature has productively explored the post-apartheid neoliberal reforms in South Africa and their cultural and political

effects; my account connects these contemporary reforms with a longer genealogy of neoliberal ideas in South Africa.³³ In Chapter 2, I explore an earlier moment in which neoliberal texts circulated and became productive in South Africa. In the late 1970s, neoliberal ideas were explicitly taken up by apartheid-era economists and officials in a search for solutions to the multiple crises that confronted the apartheid state from the early 1970s onwards.³⁴ Thus, conceptually translated and repurposed for South Africa, these ideas came to influence proposals for urban reform, both via official apartheid-era programs and more haphazardly via interventions by private organizations and foundations linked to the mining sector during the 1970s and 1980s. Crucially, such reforms were often aimed at shifting some of the most contentious political questions raised by the antiapartheid movement (regarding citizenship, political rights, and urban belonging) to an administrative, technical terrain. The power and impact of such reforms were always limited, but they helped bring into being the infrastructural terrain that in the 1980s emerged as one of the most important arenas of the antiapartheid struggle.

While critical analyses of neoliberalism in South Africa have at times relied on narratives of betrayal with clear global and local agents, along with ascriptions of causality and responsibility,³⁵ from the perspective of this more local, “infrastructural” historical perspective, the emergence and effects of neoliberalism appear at once more haphazard and in many respects more vexing and durable. This history of the circulation of neoliberal ideas also destabilizes conventional ways of thinking about neoliberalism and enables a tracing of such continuities and discontinuities across several registers and multiple terrains. Thus, rather than being merely an effect of the external influence of international financial institutions in the aftermath of liberation in 1994, by the late 1970s, neoliberal thought had already emerged as a conceptual resource that could be pragmatically drawn on by reformers and linked to a larger project of urban reform and counterinsurgency.

Against this backdrop, the “transition” emerges not as a clear-cut shift from an authoritarian regime to liberal democracy, but as an ongoing and

33 For ethnographic work that has productively explored the multiplicity of effects of this contradictory moment of “liberation and liberalization” in South Africa, see Comaroff and Comaroff 2001, 2006a; Decoteau 2013; Dubbeld 2013; Hart 2002; Makhulu 2010; Morris 2008; Robins 2010; White 2012.

34 Throughout, I analyze neoliberal thought as a “political rationality”; that is, as a form of conceptual-practical knowledge (cf. Collier 2011; Foucault 2008; see also Gordon 1991; Lemke 2001; Rose 1999).

35 Most prominently, Patrick Bond (2000) argued that the negotiations that ended apartheid were an “elite transition.” This paradoxical context of the transition has been analyzed in a wide variety of ways by critical scholars; see Habib and Padayachee (2000), Marais (2001), McKinley (1997), and Saul (2001).

often protracted project of reform that not only has a longer history, but also takes shape in a host of different and often less evident locations.

OPERATION GCIN'AMANZI (“SAVE WATER!”)

When the Diepsloot protest occurred, I had just begun my research in Johannesburg and Soweto. Initially, my intention was to study the new social movements that had emerged in response to the neoliberal 1996 Growth, Employment and Redistribution (GEAR) strategy and to Igoli 2002, a local restructuring program that had corporatized most of Johannesburg's services. Since the late 1990s, many social movements and community groups had begun targeted organizing around infrastructure and basic services, including housing, electricity, and water.³⁶ Throughout my fieldwork, I worked with the Research Subcommittee of one such movement, the Anti-Privatisation Forum (APF), then an umbrella group for a range of residents' groups sprinkled throughout the townships and informal settlements in Gauteng, South Africa's wealthiest province, which encompasses several major urban centers, including Pretoria and Johannesburg. In the weekly meetings of the committee in the APF offices in Braamfontein, just north of downtown Johannesburg, delegates from residents' groups reported back about ongoing concerns and protests; activists trained each other in writing and research methods so that they could conduct their own studies; and community meetings were held to disseminate their findings.³⁷ The committee also produced research reports and pamphlets and reported to the larger organization with substantive feedback. When I joined, most of our research was concerned with the widespread installation of prepaid meters for both electricity and water, since this was the most pressing concern in many communities.

The most vocal opposition emerged against Operation Gcin'amanzi (Zulu for “Save Water”), a large, multiyear infrastructure project initiated by the Johannesburg Water company, to upgrade Soweto's ailing infrastructure and to install prepaid water meters in all of its households. The utility, though still publicly owned, had been recently corporatized and was managed by subsidiaries of the multinational Suez Group, whose staff had

36 For work on post-apartheid social movements, see Ballard et al. (2006); Dawson (2010); Dawson and Sinwell (2012); Desai (2002); Naidoo and Veriava (2005, 2009); Pithouse (2008); van Heusden and Pointer (2006); Wafer (2008).

37 Two large reports were produced on prepaid water meters in Orange Farm and Phiri (Coalition against Water Privatisation 2004, 2005).

been central in planning Operation Gcin'amanzi.³⁸ The project, the largest water prepayment metering installation in the world, ended the apartheid-era unmetered water connections, which were now seen as inefficient and environmentally unsustainable, given large water losses in Soweto. Instead of the flat-rate connections that had provided most Sowetans with unlimited water until then, now each “stand” (plot) in Soweto was being fitted with a prepaid water meter that automatically dispensed the small nationally mandated free basic amount of water every month.³⁹ Once the basic lifeline ran out, residents had to purchase water credits from the local utility offices, in order to avoid the automatic cutoff of water supply.

If “saving water” was a central goal of the project and at the heart of its PR campaigns, another, less emphasized reason for embarking on it—and one that this book will focus on—was the widespread nonpayment for services in Soweto. Prepaid metering, utility officials hoped, could be a technical solution to the problem, enforcing payment by “self-disconnecting” any account without credit. As a measure to administratively manage mass-based nonpayment, the project was thus also a technical modality for addressing the forms of fiscal disobedience that had continued from the anti-apartheid rent boycotts of the 1980s into the present.⁴⁰

Operation Gcin'amanzi began in 2003 with a “prototype” project in Phiri, a poorer area of Soweto in which the utility had identified particularly high water losses. Phiri became the project's laboratory for testing and experimenting with the technology and for gauging what other measures would be needed to roll out the project to the rest of Soweto. From the beginning, Operation Gcin'amanzi was engulfed by protests, resistance, and controversy, which would continue as the years went on, ranging from the illicit bypassing of meters, to large marches, local protests, and, eventually, a constitutional court case against the city and the utility on the basis of the right to water. Objections to the project were multiple, ranging from health concerns about water cutoffs, especially when many residents were suffering from AIDS, to complaints about a lack of consultation and persistently malfunctioning meters. Given that both the project, and prepaid water meters more generally, were only implemented in historically black

38 “Corporatization” is a technical term that describes the process of turning utilities into companies with the City as shareholder. Once corporatized, utilities are thus private companies that are publicly owned. As I elaborate in Chapter 5, this organizational form is different from both privatization and conventional public ownership.

39 South Africa's “free basic water” policy, in part a result of the right to water recognized in the constitution, mandates municipalities to grant “indigent” residents a “lifeline” provision of water. In Johannesburg, this initially meant 6000 liters of water per month per household. This amount is calculated on the basis of an 8-person household, with each person receiving 25 liters per day. I elaborate on this policy and its calculation in Chapters 5 and 6.

40 The term “fiscal disobedience” is Janet Roitman's (Roitman 2005).

townships and that Soweto residents were not, as in the historically white areas, given the option of a regular credit meter, activists and lawyers argued that the project was also racially discriminatory. It is primarily due to these various forms of opposition that the project remains unfinished today. Indeed, by 2015, the utility conceded that most of Soweto's over 130,000 prepaid water meters had been bypassed by residents and that they were forced to install new and more secure types of meters.

In this book, I take Operation Gcin'amanzi—its planning, contentious implementation, and the surrounding debates, protests, and legal action—as an ethnographic site from which to explore the constitution of a larger techno-political terrain that straddles the late and postapartheid periods. Operation Gcin'amanzi is both an anchoring point for my narrative and a lens through which to explore apartheid's less apparent histories and their contemporary resonances and remainders. Drawing on ethnographic research with residents and activists in Soweto, with city officials, engineers, and meter manufacturers in Johannesburg, with apartheid-era bureaucrats and antiapartheid activists, and on research in engineering and local government libraries and the archives of the antiapartheid struggles, I explore how payment for basic services became a site for the articulation of long-standing questions about the promise of citizenship in the post-apartheid period.

In focusing closely on Operation Gcin'amanzi, then, I analyze how, in the aftermath of apartheid and in a context of neoliberal reforms, many of the central questions of the antiapartheid struggle—concerning the rights and duties of citizenship and the shape of democracy in the “new South Africa”—were reframed as technical-managerial and procedural questions. If, as many suggest, in a context of neoliberal reform citizenship becomes “thin,” I suggest it does so in part, because many previously political or civic operations and concerns are now “framed” outside of the domain of the political (Callon 1998). In the aftermath of apartheid, the politics of infrastructure, basic needs, and life itself—forms of politics that were often articulated via and subsumed within the political languages of the nationalist movement during the antiapartheid struggle—have become sites for the negotiation of key questions of postapartheid citizenship concerning local democracy, belonging, and the bounds of civic obligation and social rights.

By examining the debates, protests, legal battles, and changes in everyday life elicited by an infrastructure project and, indeed, by a seemingly mundane technical object, I track the ways in which such ethical and political questions are delegated and transduced to technical spheres.⁴¹ As I argue throughout this book, such delegations and transductions do not

41 I am here drawing on Stefan Helmreich's (2007) use of Silverstein's original formulation of transduction (2003). Latour's concepts of “delegation” and “translation” focus our

necessarily mean that the political disappears, but rather that it is mediated in new and at times less apparent forms. Tracing these multiple, less visible transformations at an infrastructural register, this book explores the shape of postcolonial democracy, new forms and locations of postapartheid politics and the less apparent ways in which apartheid inhabits the present.

DEMOCRACY'S INFRASTRUCTURE

This book is guided by two linked lines of inquiry that run through each of the chapters. First, my account conceptually, historically, and ethnographically traces how in the late-apartheid period infrastructure emerged as a techno-political site of administrative and governmental intervention where successive crises of apartheid were played out and negotiated. I also explore its continuities in the present, as this terrain becomes the location where citizenship is fashioned through a variety of measures ranging from repressive policing practices, to civic pedagogies and technical interventions. Second, the following chapters examine the politics and forms of disagreement spawned by this terrain, from the rent boycotts during the antiapartheid struggle to the contemporary protests, social movement activism, and continuing popular illegalities. I trace the technical politics that emerges as township residents and activists mobilize expertise and the infrastructures themselves to make claims on the state, and I examine how this often invisible terrain at times becomes a site of public disagreement, in particular during spectacular protests, but also through media debates, election campaigns, or high-profile legal action in the Constitutional Court. In disputes over payment for service charges, water cutoffs or evictions; in the spectacular destruction of infrastructure during protests, the more silent bypassing of water or electricity meters, and the mobilization of numbers and expertise, I suggest, a different political terrain comes into view.⁴²

While the chapters that follow are organized chronologically, they also each focus on specific forms of techno-politics and the shifting assemblages of ethics, technics, and politics through which they emerge. In the next two chapters, I draw on the histories of the 1970s and 1980s to examine how infrastructure became central to apartheid's forms of power and, in

attention on semiotic-material forms of translations which “inscribe . . . words into *another matter*” (Latour 1992: 249, emphasis in original).

42 By “political terrain,” I mean on the one hand the discursive problem-space within which certain political languages resonate whereas others cannot (cf. Scott 1999). On the other hand, I use the term to reference the importance of forms of making political claims—the techniques, idioms, and materialities of acting politically.

turn, to trace the often less visible, “technical” histories of the antiapartheid struggle. As histories of the present, these chapters seek to unsettle the periodization of the transition and to provide the grounds to think anew about questions that have become seemingly commonsensical. In turn, the ethnographic chapters closely follow the life of the meter, from its design by engineers and “guerrilla technicians,” to its working in Soweto residents’ yards, its deployment at protests, and, finally, its appearance in court.

Chapter 2 locates the beginnings of a specifically neoliberal techno-politics in South Africa in the conceptual and practical responses to the 1976 Soweto Uprising. Drawing on archival research and interviews with apartheid-era economists and functionaries, the chapter provides a close reading of the political styles of reasoning that emerged as neoliberal thought was appropriated by the state and private organizations in response to the systemic crises of the 1970s. I trace the move away from the macro-techniques of grand apartheid and toward more micro-political techniques at the level of the administrative and the technical. This late-apartheid techno-politics, and the neoliberal archive that often inspired it, enabled a form of counterinsurgency mediated by infrastructure and administrative techniques.

In Chapter 3, I focus on the particular infrastructural political terrain these late-apartheid reforms helped bring into being. In order to account for the intensity of resistance with which Operation Gcin’amanzi was met, I return to the “rent boycotts” of the 1980s when township residents used mass nonpayment for service charges as a powerful weapon against the apartheid state. The chapter draws on archival records and interviews with apartheid-era local bureaucrats and former antiapartheid activists to explore how nonpayment became politicized during the antiapartheid struggle beginning in the 1980s and how, from the 1990s onwards, it was “reframed” as a technical, rather than a political problem. Thus, against the backdrop of this history, Operation Gcin’amanzi and the meter itself emerge as attempts to sever the historic link between nonpayment, infrastructure, and claims to citizenship and belonging.

Chapter 4 explores the micro-political battle between residents tinkering with the technology and engineers trying to secure it. Technology itself thus becomes a political terrain for the negotiation of ethical and political questions of civic virtue and citizenship. I also trace the meter’s techno-political history from its invention in Victorian Britain to the late-apartheid period and into the present. At each moment, I suggest, the meter was harnessed to distinct ethical regimes and political projects. Drawing on my ethnographic fieldwork at industry meetings and offices, I explore how engineers make the device functional in the postapartheid moment. In following the travels of a small technical device and the ethical and political worlds it is shaped by and that it, in turn, helps shape, this chapter also conceptually reconsiders the relationship between ethics, politics, and technics.

Chapter 5 ethnographically follows the planning and contentious implementation of Operation Gcin'amanzi from city offices, local utility staff workshops, and consultation forums to the meetings of activist groups and local protests against the project by a local residents' group. I examine how the installation of prepaid water meters, and the curtailment of water services they entailed, transformed relationships within and between households. Specifically, the chapter focuses on the multiple forms of intervention attending the corporatization of water provision and the semiotic-material work of making water calculable. In turn, I examine the "countermeasures" produced by Phiri activists, as they took up numerical practices to make claims on the state.

In the aftermath of waves of ultimately unsuccessful protests against the project, five residents from Phiri took the City of Johannesburg to court on the basis of their constitutionally enshrined right to water. Chapter 6 ethnographically tracks the case from its beginnings to its dismissal by the constitutional court. Moving between ethnographic encounters and interviews with the residents and lawyers involved, this chapter explores the ways in which the residents, in order to articulate their claims in the register of rights, had to rely on the calculative languages they sought to oppose. Within the judicial logic of the case, suffering and "basic needs" became measurable variables to be weighed against competing calculations authorized by expert knowledges. This legal techno-politics involving experts, residents and legal officials became central to the adjudication of key ethical and political questions in the postapartheid period.

Looking at political change from the perspective of this administrative-political terrain enables a different story of the transition to be told, one in which time proceeds less linearly, where change is less dramatic, more piecemeal and often murky, and where apartheid's material intransigence continues to shape daily life in a multiplicity of ways. It is in this sense that I am interested here in apartheid's "debris" and its contemporary remainders. While the first general election in 1994 marks the beginning of democracy in South Africa, the continuities and discontinuities with the late-apartheid era unfold at different speeds, at diverse registers, and at an uneven pace. If during the liberation struggle, protests against administrative interventions by the apartheid state were both articulated via and appropriated by nationalist languages of self-determination, in the immediate postapartheid period, such languages were no longer as easily available as idioms of opposition.⁴³ Protest has thus often become spectral; dispersed,

43 While social movement activism in the postapartheid period has consistently drawn on earlier liberation idioms, repertoires, and tactics, so-called delivery protests have taken wide variety of forms and modes of expression (cf. Von Holdt et al. 2011).

and splintered into a diversity of locations that may unfold on a more micro-political terrain and that may range from violent and spectacular expressions of disagreement to the silent bypassing of a meter. Rather than senseless, mute acts of violence and uncivic behavior, such acts need to be read against the backdrop of a historically constituted terrain that usually remains invisible and below the radar of normative domains of political engagement.

In South Africa, there is today a wide disjuncture between the globally circulating miracle narrative of liberal democracy with its free and fair elections, rights discourses, and civil society, and local experiences of democracy that are oftentimes shaped by apartheid and its infrastructural legacies. While the waves of contemporary protests are clearly often bound up with material demands on the state, they are *also* in many instances a reflection of the ways in which apartheid's intransigence is materialized in roads, pipes, bureaucratic forms, administrative fiat, and indeed in embodied forms of ethical and political knowledge. This intransigence is reinforced in the present democratic moment in which a new set of reforms and state projects are built on the ruins of the old, and in which the relation between the administrative and the political has been reconceived in a liberal frame. Retelling this history of apartheid from the perspective of its infrastructure thus also brings into view the ways in which the liberal order of free circulation often rests on illiberal foundations. It is in this sense, that this is also decidedly *democracy's* infrastructure.