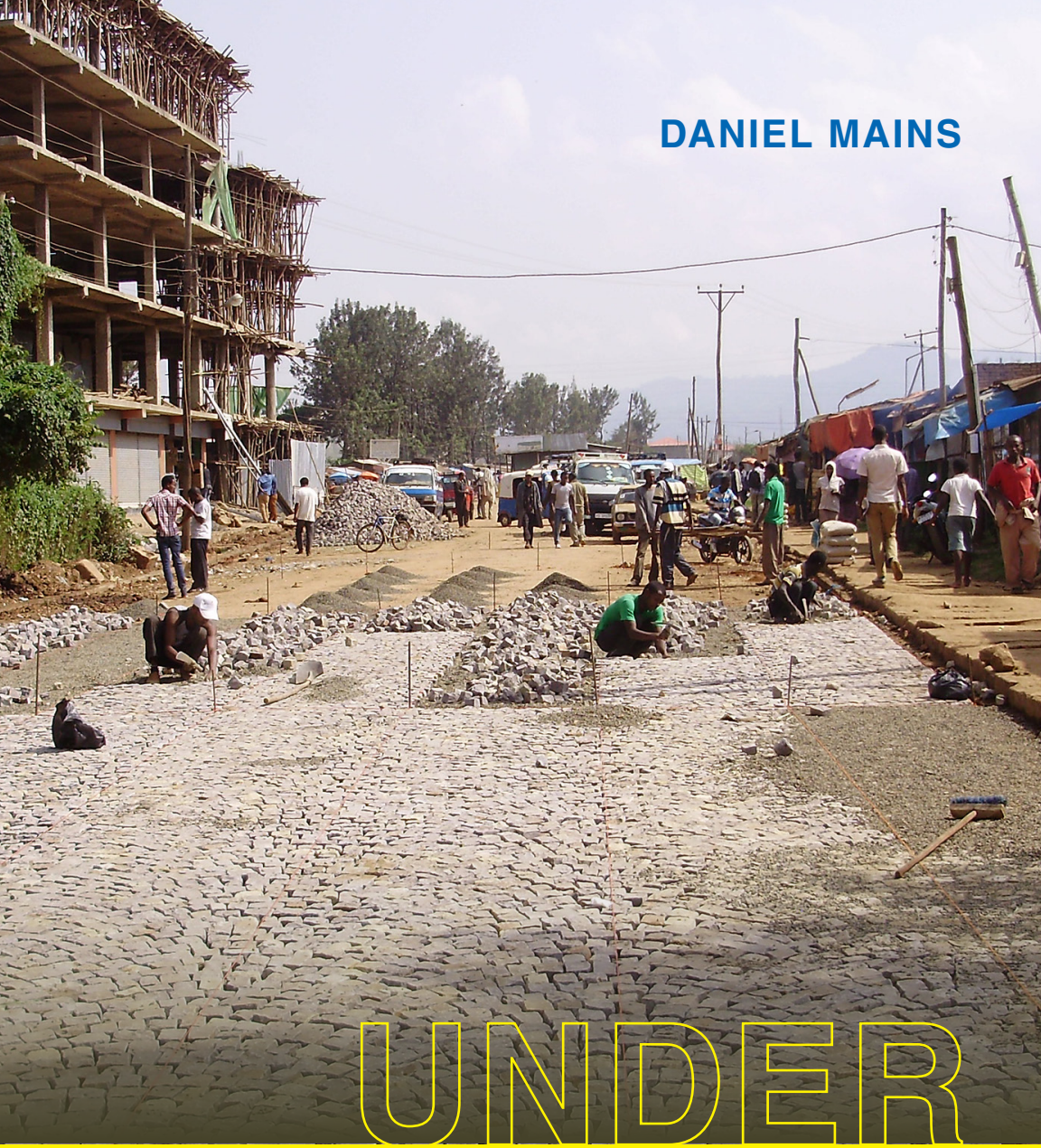
DANIEL MAINS



# UNDER CONSTRUCTION

## Technologies of Development in Urban Ethiopia

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COVER ART: Cobblestone road construction, Jimma.
Courtesy of the author.

FOR ALISE

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# INTRODUCTION. Foundations for Development

## *Infrastructure, the State, and Construction*

The Ethiopian state is investing more than $5 billion in the Grand Ethiopian Renaissance Dam (GERD) on the Blue Nile River. It will be the largest hydroelectric project in Africa and generate six thousand megawatts of electricity, enough to power a light bulb for most of Ethiopia's more than 100 million residents. In both journalistic and scholarly accounts, Ethiopia is often held up as an example of one of the new "African Lions," on the leading edge of an Africa that is "rising" and changing its place within the global economy (Radelet 2010; Schuman 2014). With its name alone, the Grand Ethiopian Renaissance Dam implies not only that Ethiopia is rising, but that it is returning to greatness through infrastructural development. In Amharic, Ethiopia's national language, the term for infrastructure, *meseret limat*, translates literally as "the foundation for development." Like the English *infrastructure*, meseret limat refers to a foundation or base, but it is necessarily connected to development. Dams, roads, and other forms of infrastructure are the foundation from which the Ethiopian state seeks development and hopes to reach the status of a middle-income country by 2025.[1] Ethiopia had one of the fastest-growing economies in the world between 2007 and 2017, and much of that growth resulted from high levels of state investment in infrastructure (World Bank 2013; World Bank Group 2017). In many ways Ethiopia is an infrastructural state.

A poster produced by the Ethiopian government in celebration of Nations, Nationalities and Peoples' Day in 2013 featured a collage of images—high-rise apartment buildings, a bullet train, a power plant, propellers for

generating wind power, and perhaps most importantly, a hydroelectric dam. At the base of all of this and emanating rays of light is the Ethiopian constitution. The poster announces, "Our Constitution for Our Renaissance" (see figure 1.1). The constitution was introduced when the Ethiopian People's Revolutionary Democratic Front (EPRDF) came to power in the early 1990s, and the creation of Nations, Nationalities and Peoples' Day is specifically associated with the EPRDF. The poster implies that the particular laws and forms of governance implemented by the EPRDF are supporting the development of spectacular new infrastructural technologies. The EPRDF is leading the country toward a bright future, a renaissance, represented by bullet trains and massive dams. Infrastructures often support movement and connections across space, but it is this symbolic temporal movement that is perhaps most important for the politics of infrastructure. The dam has the potential to transform the nation's economy, but for many Ethiopians the technology itself symbolizes modernity and state-led development. As fast as possible, the Ethiopian state pushes forward with construction of infrastructure not only to support growth, but to secure legitimacy through images of progress and modernity.

The images of infrastructure depicted in state propaganda obscure the process of construction. It is easy to forget that infrastructures are planned, built, and paid for by people with very different interests—urban residents, laborers, engineers, and government administrators. In contrast to state propaganda, the messiness of construction is striking. Roads peeled back and dug up, rivers diverted, houses bulldozed, people at work—it is in the process of construction that contingency is revealed and simple temporal narratives are unsettled. Weather, soil conditions, friendships, corruption, international financing, and local politics are among the many factors that complicate plans and cause construction projects to succeed or fail. Infrastructural development is a continual struggle, and progress is neither inevitable nor impossible. In this book I take the process of construction as a site for exploring everyday encounters between citizens, the state, and infrastructural technologies.

In the city of Jimma, where I have worked intermittently since the early 2000s, people were highly enthusiastic about asphalt road construction, and in 2009 they willingly donated money to support the project (figure 1.2). Five years later, with work still unfinished, Jimma residents claimed, "We don't have roads, we have mud." Old asphalt was scraped away from roads, but for many years the resurfacing was not finished. Heavy rains brought


FIGURE 1.1. "Our Constitution for Our Renaissance." Poster from Nations, Nationalities, and Peoples Day. Photo by the author.

erosion and further complicated construction. Many roads were blocked to vehicles and people moved through the city on foot, carefully negotiating each step through the sticky red mud. It is in the construction of urban infrastructures that abstract citizen/state relations materialize. Jimma residents blamed ethnic politics and a corrupt city government for the failed construction. They claimed they would never again give their money to support such a project. Rather than the renaissance associated with the dam, in Jimma roads evoked a sense of being mired in the muddy present. When I visited Jimma at the time of the 2015 national election, talking politics and infrastructural development was a way of catching up with old friends. "Satan is better than the EPRDF," claimed a friend I have known since the early 2000s. "We have no infrastructure, the cost of living is constantly going up, and the government is intruding into everything we do, even our religion." I replied that the EPRDF has certainly accomplished some things, and I pointed out the example of a new asphalt road that connected his neighborhood with the city center. "This kind of development is meaningless if people cannot eat," my friend responded. "The government sells all of our food to Saudi Arabia and Sudan, and now we cannot even afford to buy lentils." Others in Jimma made similar statements that contrasted new roads and buildings with empty stomachs.

Government administrators, however, blamed Jimma's soil type, rain, and insufficient funds. The road construction company that had been awarded the lucrative contract for renewing Jimma's roads claimed that old, densely constructed housing in the city center caused the delays. Construction was not easy, and even when it was successful urban Ethiopians did not easily accept the association between the EPRDF and the images of a renaissance displayed in state propaganda. In building infrastructure the state seeks to establish its own legitimacy, but the process of construction is very messy, and the building of roads and dissent cannot be separated.

In contrast to Jimma, in the city of Hawassa, where I conducted research in 2013 and 2014, asphalt roads were quickly built and provided a foundation for economic growth. The benefits of Hawassa's new roads, however, were not distributed equally. Even when it is successful construction is inseparable from certain types of destruction. With the coming of asphalt roads, many inner-city residents were forced to give up their homes as they were resettled to the outskirts of the city to make way for commercial interests. In urban Ethiopia, construction was a continual process of contestations between citizens and state over access to imagined futures.

FIGURE 1.2. Road construction in Jimma. Photo by Alise Osis.

Such tensions became particularly apparent in October 2016. Just days after announcements that Ethiopia had overtaken Kenya as the largest economy in East Africa, the government declared a six-month state of emergency. After months of peaceful public demonstrations against the ruling EPRDF party, to which the state consistently responded with violence, protestors focused their attention on private interests and attacked and destroyed foreign-owned factories and flower farms south of Addis Ababa. The same factories that were generating growth and creating jobs were attacked because of their relationship with the Ethiopian state. The state's rapid push to construct an Ethiopian renaissance resulted in destruction. Hundreds of protestors have been killed since 2015 (Horne 2018), and it is unclear whether the EPRDF regime will survive to see the renaissance it has proclaimed.

Construction offers both a theory and methodology for exploring the relation between state-led development and destruction that is emerging globally in places such as Turkey, China, and Vietnam. As methodology, the process of construction is a site for ethnographic research in which states, citizens, materials, markets, labor, and plans for the future continually encounter each other. Construction sites can be dangerous, and they are ideal places for exploring conflict. It is during the process of construction that labor, materials, and the state collide. This collision is highly un-

stable, but among other outcomes it produces roads, dams, and transportation networks.

Construction offers an analytical framework for understanding temporal change that is very different from conceptions of abjection or rising that have recently been used in relation to development in Africa. Construction necessarily involves long-term plans for the future and expectations of growth, as well as change and instability. Life is uncertain, and yet plans are important, even when they are not fulfilled. Because construction builds at the same time that it destroys, it offers a sense of direction without directionality. The process of construction reminds us that movements and transformations may occur in multiple directions that are in no way linear, and yet conceptions of progress remain important. Expectations of modernity (Ferguson 1999) shape urban Ethiopians' evaluations of state interventions, but their desires for progress and growth are rarely satisfied. It is through the process of construction that articulations between multiple temporalities are made visible. At the moment of construction there is potential for spatial and temporal movements to occur in multiple directions, and it is in this sense that the time of construction is also a time of destruction.

Some of this temporal movement occurs within the lives of the people who do the physical work of constructing infrastructure. In contrast to the images of infrastructure in state propaganda, construction sites are filled with people. Construction depends on labor. Although anthropologists have embraced AbdouMaliq Simone's (2004) conception of people as infrastructure, they rarely discuss the people who actually construct material infrastructures. I initially became interested in infrastructural development when I observed many of the unemployed young men who were involved in my research in the early 2000s (Mains 2012b), working for international companies to build infrastructures. For the equivalent of around $150 per month, many young men from Jimma worked for Salini Impregilo to build a twenty-six-kilometer power tunnel for the Gibe II hydropower project. They spoke of the heat and the stifling air inside the tunnels of the $500 million project. Jimma was a long day's journey from the construction site, and the workers lived in camps. When the project wound down most of the construction workers returned to Jimma and searched for new jobs, usually building infrastructure. Some of them ended up building urban cobblestone roads. Although the jobs created by dam construction are certainly important, they pale in comparison to the more than hundred thousand young

people who have found work building cobblestone roads in the past decade. Cobblestone is a new technology in urban Ethiopia, and it has been adopted with the support of the German government. In contrast to dams, cobblestone roads are not monumental infrastructures associated with modernity. Images of cobblestone are not common in state propaganda, but cobblestone road construction is very important for the Ethiopian state for the simple reason that it creates jobs. Infrastructural technologies resonate with different temporalities and ideologies of development. Cobblestone is slow infrastructure. Locally quarried rock is chiseled and set by hand (see figure 1.3). Where contracts for dams are worth billions of dollars, associations of neighborhood youth compete for $20,000 cobblestone contracts managed by municipal governments.

Cobblestone and hydropower dams are very different technologies, but in both cases to be under construction is to engage in a tense encounter between materials, labor, and the state. Both discursively and materially, Ethiopians experience the state through specific infrastructural technologies that are associated with distinct ideologies of development—hydroelectric dams, asphalt roads, three-wheeled motorcycle taxis, and cobblestone roads. My research engages with construction workers, engineers, residents of rapidly changing neighborhoods, government administrators, and taxi drivers in two Ethiopian cities. It is the process of construction that brings together so many different people, things, and places. Each chapter examines a particular form of urban infrastructure to advance arguments about encounters between citizens, states, and materials that emerge through the construction process and the struggle for a desirable future.

What does it mean to live in a time of construction? In the following sections I outline four major arguments that emerge from a close analysis of the construction process. These arguments are based in the Ethiopian case, but they may be applied globally in the numerous places where state plans for development simultaneously build and destroy.

1 Although states have withdrawn from many areas of governance, they maintain a selective engagement in the field of construction. Ethnographic research on the process of construction is essential for understanding the contemporary state.
2 The regulations associated with state planning interact with the precarious improvisations of urban life to build infrastructures and inequalities.

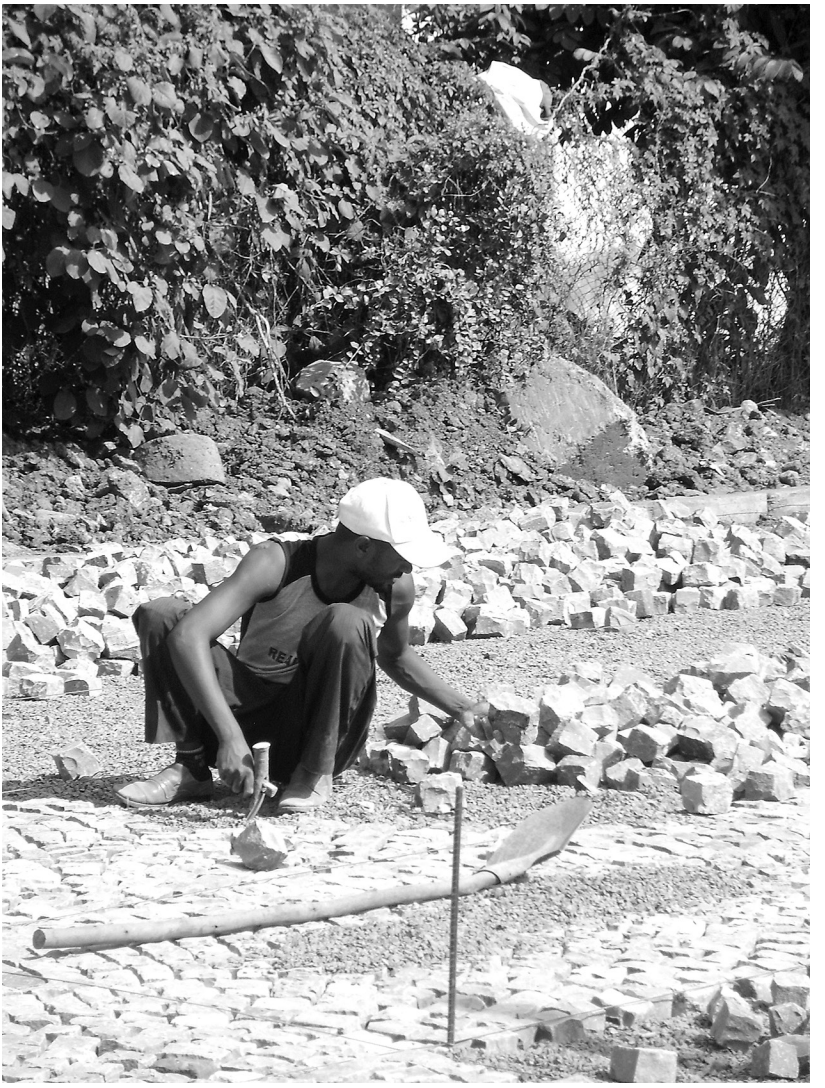

FIGURE 1.3. Cobblestone construction. Photo by the author.

3 Urban residents' affective relationships with the construction of infrastructures shape the legitimacy of the state.
4 The politics of infrastructural development is best understood through a synthesis of historical and vital materialisms.

## Absent States, Africa Rising, and Infrastructural Development

Ethiopia demonstrates the problems of conceptualizing the withdrawal of the state in relation to narratives of abjection or rising. States are certainly absent in many areas, but they often continue to maintain strong presences through construction. Beginning with the structural adjustment policies of the 1980s and 1990s and the end of the Cold War, African states have been in retreat and abandoned much of the work of governance (Ferguson 1999, 2006; Larkin 2008; Piot 2010). Regarding Africa, Charles Piot wrote that the absence of international aid after the end of the Cold War forced "the state to withdraw from social and development fields and to turn its back on the large-scale, top-down development projects (and the linear teleologies that accompanied them)" (2010, 15). Rather than pursuing projects in the interest of the public good, the primary function of African states has been to provide the legal authority to "legitimate the extractive work of transnational firms" (Ferguson 2006, 207). In this context abjection and economic decline became key elements of people's experiences of day-to-day life (Ferguson 1999; Mains 2012b).

In contrast, journalists and scholars have begun advancing a narrative of Africa rising. Proponents of the Africa rising narrative celebrate the withdrawal of the state as an opportunity for economic growth that is not stifled by an inefficient and often predatory state. One of the most insightful of these analyses is journalist Dayo Olopade's book, *The Bright Continent*. Olopade examines the relationship between what she calls "fail states" and entrepreneurship. When states fail to provide basic services, entrepreneurs step in with market-based solutions to development problems (Olopade 2014, 143). Steven Radelet claims that there is a direct relationship between downsizing states, democratic governance, and economic growth (2010, 2016). Radelet argues that austerity policies and forced elections created more pluralistic and democratic regimes, which in turn support economic growth (2010, 17). Radelet's evidence connecting austerity to democracy is

unclear, and as he acknowledges (Radelet 2016), Ethiopia's rapid growth has occurred in the absence of democratic reforms. Vijay Mahajan's optimism in *Africa Rising* (2009) borders on absurd. In his opening chapter Mahajan explains that frequent power outages are good news for African entrepreneurs. He offers the example of the South Africa–based Innscor, owner of restaurant chains such as Steers, Pizza Inn, and Bakers Inn, and claims that during the power outages that plague many African countries, it is difficult for people to cook at home and thus they are more likely to eat out at fast food restaurants, thereby generating economic activity. Aside from my family, I never observed anyone in our shared compound going to a restaurant as a result Hawassa's frequent power outages in 2013 and 2014.

Abjection and decline certainly do not describe Ethiopia's rapid economic growth, but at the same time, optimistic Africa rising narratives do not fit the daily struggles of many urban Ethiopians to access electricity, water, and other basic services. The Ethiopian state's investment in infrastructure takes place within a peculiar context of unprecedented economic growth and daily struggles to access basic needs. On one hand, a recent *Time* magazine article announced, "Forget the BRICs [Brazil, Russia, India, and China]; Meet the PINES [the Philippines, Indonesia, Nigeria, and Ethiopia]!" (Schuman 2014). Ethiopia's GDP grew at a rate of more than 8 percent annually between 2001 and 2010 (*Economist* 2011), and growth occurred at a rate of more than 10 percent from 2010 to 2015 (Africa Development Bank n.d.). On the other hand, beginning in 2008 the cost of staple foods rose dramatically, forcing many families to skip meals (Ulimwengu et al. 2009), rates of unemployment among urban youth are still quite high, particularly for women (Broussard and Tekleselassie 2012), and high levels of inflation have made life very difficult for government workers and pensioners. Very few of the urban Ethiopians I know feel they have benefitted from recent growth in GDP, and most complain of a rising cost of living that makes purchasing basic necessities increasingly difficult.

Although there is certainly much evidence that African states have withdrawn from some aspects of governance, in Ethiopia state-led development and narratives of progress have not been abandoned. The Ethiopian state retracted after the sprawling bureaucracy of the Marxist Derg regime (1974–91), in which every secondary school graduate was guaranteed a government job. However, a state that wages a war with Eritrea, establishes nearly thirty new federally run universities in less than fifteen years, and relocates hundreds of thousands of people in the name of avoiding fam-

ine is certainly not absent. Writing about twentieth-century Nigeria, Brian Larkin explains, "Infrastructures were the promise a state made to its citizenry. In return for political support, the state claimed to provide citizens with the infrastructural path to the future" (2016, 47). The Ethiopian case demonstrates that similar promises are still being made, but within the peculiar context of the twenty-first century. The EPRDF party that has ruled since the early 1990s defines itself as a developmental state (Lefort 2012; Vaughan 2011) and maintains a highly selective presence as it invests massive amounts of resources in the construction of infrastructure. The Ethiopian state has withdrawn, and yet it asserts itself quite forcefully in building and regulating infrastructures. It is this construction that produces economic growth as well as destruction and instability.

The Ethiopian government has sought to define itself in opposition to what former Prime Minister Meles Zenawi called the neoliberal "night watchman state" (Zenawi 2011b, 140). Rather than standing aside to make way for private enterprise, the state actively intervenes in Ethiopia's economy. For the EPRDF, investing billions of dollars in hydropower projects and asphalt roads has been a key strategy for achieving a hegemonic developmental state. Will Jones and his colleagues write, "The idea of omniscient, enlightened mandarins using 'sacred' knowledge to guide the backward masses is an enduring one, recently recycled in institutions such as Ethiopia's Office of the Prime Minister, the Rwanda Revenue Authority and Sudan's Dam Implementation Unit (DIU)" (2013). In Ethiopia, however, the developmental state is not an anachronism. It is specifically intended to counter the dangers and failures of African states that do not provide basic public services for their citizens. Former mayor of Addis Ababa, Arkebe Oqubay (2015), has argued for an "activist state" that avoids the failures of the "Washington consensus" structural adjustment policies of the 1980s and 1990s. The twenty-first-century developmental state looks not to the West, but to models from the East, particularly China (Mosley and Watson 2016).

Struggles over dams, roads, and public transportation are not unique to Ethiopia. Across the African continent states seek to advance visions of growth and modernization through infrastructural development. The Grand Inga Dam that is being planned in the Democratic Republic of Congo would be the world's biggest hydropower project, cost more than $80 billion, and generate forty thousand megawatts of electricity. Dakar residents debate the merits of road construction and struggle with various forms of "bottlenecks" as their city is transformed (Melly 2017). In Kinshasa residents imag-

ine spectacular futures in relation to large-scale construction projects (De Boeck 2011). Kenya seeks to define itself as a "silicon Savannah" at the center of Africa's expanding digital technology sector (Poggiali 2016). Beyond Africa, construction mediates citizen/state relationships in many urban areas. In Turkey "bulldozer capitalism" creates rapid cycles of state sponsored construction and destruction (Evrem forthcoming). The construction/destruction relationship in Ho Chi Minh City has created a world of "luxury and rubble" (Harms 2016). In urban China redevelopment is inseparable from "disrepair" (Chu 2014). Taken together, these cases suggest that much of the world is under construction, both figuratively and literally, and the Ethiopian case is particularly instructive in illuminating this process.

The proliferation of construction is in part due to China's emergence as a source of funding and labor for infrastructural development in Africa. With growth slowing in China, accumulated Chinese capital and expertise can be put to use in Africa (Tilt 2015, 182–83). China's emergence has pressured the World Bank to return to large-scale infrastructural development. Under structural adjustment, the World Bank and the IMF forced African nations to downsize in order to receive loans. Quality of life suffered as states cut back on funds for health care, education, and public services and abandoned large investments in infrastructures (Ferguson 1999; McMichael 1996). At the beginning of the twenty-first century the debts of African nations began to be forgiven under the World Bank and IMF's Highly Indebted Poor Country (HIPC) initiative. Structural adjustment policies were replaced with Country Led Poverty Reduction Strategies that gave individual nations somewhat more autonomy in determining their strategies for development. Aid to African countries has also begun to increase from its post–Cold War low in 1999, and this has freed up funds to invest in infrastructural projects that were largely abandoned during the structural adjustment era (Radelet 2010). These factors have contributed to a relative boom in construction, particularly large projects related to infrastructural development.

Despite these shifts, the Ethiopian state still faces financial constraints on its ability to build. The state seeks to establish its legitimacy through investment in infrastructure and public services, but it often lacks the funds to provide for the basic needs of its citizens and actualize its vision of developmental hegemony.[2] Its access to loans and aid packages is far less than in the Cold War years of the mid-twentieth century. As a result the state has forced government employees to donate portions of their salaries to projects ranging from the GERD to Jimma's road construction. Infrastructure often

depends on complex relationships between public and private interests. The three-wheeled motorcycle taxis that provided nearly all public transportation in Hawassa were entirely owned and operated by private interests, but the state determined taxi routes and passenger fares. Drivers eventually refused to work when state-mandated fares were so low that it was impossible to maintain a livelihood. The state's limited resources to advance its vision of development have created much of the tension that drives the construction/destruction relationship. As the state builds it extracts labor, wages, and resources from its citizens. The protests that eventually culminated in the 2016 state of emergency began with the expansion of Addis Ababa's administrative boundaries and fears of expropriation of land from Oromo farmers. Protestors had multiple complex motivations, but opposition to state planning was certainly one of the reasons they took to the streets.

To construct an Ethiopian renaissance, the state also depends heavily on international capital. Much of this investment comes from China, but companies from around the world are involved in constructing Ethiopia. Salini Impregilo has built many of Ethiopia's dams, including the multibillion dollar GERD. In some cases Salini has been awarded no-bid contracts, meaning that there is very little transparency and numerous opportunities for corruption. The Ethiopian state's dependency on international companies adds one more source of instability to the process of construction.

It is partially the nature of Ethiopia as an extreme case of state-led development that makes it so valuable for understanding other cases of construction. Ethiopia is not a typical state in the developing world. It was never colonized. Different Ethiopian regimes have excelled at manipulating foreign alliances to maintain regional power. Beginning in the twentieth century under Haile Selassie, the state has invested significant resources in top-down development projects. Under the EPRDF, the central government allocates virtually all fiscal resources and nominates all key regional personnel (Hagmann and Abbink 2013, 5). The Ethiopian case offers a particularly intense contrast between state-led development and ongoing poverty. However, rather than arguing for Ethiopian exceptionalism, I believe Ethiopia has great value as an extreme exemplar for understanding the selective engagement of states in construction that is also found elsewhere. In recent years Ethiopia has had one of the highest rates of public investment in infrastructure in the world. State investment is combined with collaboration with private construction companies, both national and international. The Ethiopian case clarifies contestations surrounding development, gover-

nance, and technology that are certainly present elsewhere but may not be immediately apparent.[3]

## Regulating and Improvising Construction

A key project for this book is to implode the opposition between the simplified generalizations associated with state planning and the particularities of local practices, environmental conditions, and human relationships. I argue that regulations and improvisations represent distinct ways of engaging with the future, but they are not necessarily opposed.[4] Rather, regulations and improvisations interact to construct infrastructures and shape relations of power and inequality. An illustration comes from the three-wheeled motorcycle taxis—referred to by their brand name, Bajaj—that provided nearly all of the public transportation in Hawassa. The Bajaj was at the center of conflicts between the top-down state regulation associated with planning and large-scale infrastructure, and the irregular economic and social relationships that are of great importance in urban Ethiopia. Bajaj owners generally leased the vehicles to drivers who earned an income based on the number of passengers they carried throughout the day. The state controlled passenger fares, Bajaj routes, and license distribution. Drivers consistently violated state regulations to meet the needs of passengers and maximize their incomes. A functional urban transportation system depended on state regulations and driver improvisations. Although the tension between the two was certainly important, it was the interaction between regulation and improvisation that allowed people to move through the city.

In the mid-twentieth century states assumed that they could use expert knowledge and planning to serve the public good and attain imagined futures. Critical development scholars questioned the legitimacy of these projects during the 1980s and 1990s. Among other critiques, they highlighted the problems that occur when those who are affected by projects have no voice in the planning process (Ar. Roy 2001; Scott 1998). Particularly influential was James Scott's (1998) critique of state-led planning that relies on "radical simplifications" and ignores localized knowledge and practices in favor of singular solutions intended only to increase production. Critiques of development were also based on the "knowledge problem" addressed by Austrian economists Friedrich von Hayek and Ludwig von Mises (Elyachar 2012). From this perspective, similar to Scott's (1998) view, top-down planning is destined to fail because of a lack of knowledge regarding on-the-

ground conditions. In contrast to Scott's attention to practice, however, "Protagonists of the calculation debate set up a structured opposition between two ideal types: the entrepreneurial individual subject of the free market, on the one hand, and the public sector of the totalitarian state, on the other. There was no consideration of other kinds of subjects and other forms of property" (Elyachar 2012, 119). The arguments of Austrian economists have increasingly been incorporated into development schemes that avoid large-scale projects and instead distribute funds to individuals with the hope of creating entrepreneurs who can pull themselves out of poverty (Caldeira and Holston 2005; Ferguson 2015; Hanlon et al. 2010). Scholars have celebrated improvisations in the absence of planning as paths to almost utopian future cities (Gandy 2005). Even the World Bank has called itself "anti-development" in order to distinguish between the megaprojects it financed in the past and its increasing support for microfinance initiatives (Elyachar 2002).

Specific infrastructural technologies are associated with these competing ideologies of development. The hydroelectric dam, for example, modifies the environment and depends on state planning and expertise to generate and distribute power. In contrast, the flexibility of the Bajaj enables individual drivers to function as entrepreneurs who make decisions in response to changing market conditions. One technology uses generalizable expert knowledge to change the environment, whereas the other facilitates the use of localized knowledge to respond to a changing context.

Shifts among competing ideologies and technologies of development have occurred simultaneously with the changing roles of states described above. As AbdouMaliq Simone (2004) explains, when states fail to provide basic public services, people and their social networks often function as infrastructure, delivering the services necessary to sustain urban life. For example, in 2014 when water ceased to flow from faucets in Hawassa neighborhoods, boys carrying jerry cans of water on handmade wheelbarrows filled the streets, delivering it to households for a small fee. Neighborhoods without piped water continually relied on boys using donkey carts to deliver water. These networks of people generally lack the centralized organization that is associated with state-led projects and technologies such as piped water. Instead, networks organized on the basis of gender, ethnicity, and kin used flexible technologies such as donkey carts to respond to possibilities for earning incomes.

Social scientists often categorize these networks that are not regulated

by the state as informal economic activity—in some cases they are explicitly illegal and in others they are not connected with a codified set of laws.[5] In many African countries the bulk of economic activity occurs in the informal sector. It is partially for this reason that the formal/informal binary is problematic—it does not make sense to call the most pervasive types of economic activities "informal" (Ferguson 2015, 94). Perhaps even more importantly, "informal" categorizes a highly variable set of activities, and even when clear definitions are offered, such as defining informality in terms of a lack of state-issued documentation, it is not clear that this is relevant for maintaining a livelihood.[6] For example, the dependence of Bajaj drivers on violating laws is no more important for their livelihood than state regulations. Water delivery boys fill their jerry cans from state-provisioned faucets. State regulation of the transportation sector and water delivery is often shaped by bribes and other seemingly informal practices. Many livelihoods encompass both regulated and unregulated activities. Regarding urban infrastructures, contrasting types of practices are clearly at play, but their qualities are not usefully captured by the informal/formal distinction.

Scholars have used a variety of terms to get to the heart of the qualitative differences that are missed by the formal/informal dichotomy. Scott (1998) contrasts complexity with simplifications that are based in a singular evaluative hierarchy that is applied to variable contexts. Anna Tsing's (2015) distinction between scalable and unscalable also differentiates between practices in terms of their potential to be applied across a wide range of contexts. In their analysis of road construction, Hannah Knox and Penny Harvey contrast the "systemic stabilization" of roads with an unstable world (2011, 145). Ferguson draws on AbdouMaliq Simone's work to suggest that many economic activities should be considered "improvisation under conditions of adversity" (2015, 94).[7] Improvisation may be usefully contrasted with a more rigid pattern of behavior in which uniform practices are applied regardless of context. Simplification versus complexity, stability versus instability, scalable versus unscalable, rule-bound rigidity versus improvisation—in each case the distinction is between a regularized pattern of behavior and practices that are flexible and change depending on context.

Improvisations are specific to particular times and places. This does not mean that improvisation is somehow instinctive or free from past experience. Improvised practices draw on past experiences to develop solutions for changing conditions encountered in the present. These temporal dynamics are not captured with the informal/formal dichotomy. Just as jazz

musicians do not improvise alone, and in some cases, like Sun Ra's Arkestra (Szwed 1997), they play and improvise together for more than thirty years, the improvisations of urban Ethiopians are based in long-term relationships. People learn to improvise together, and that practice plays out at particular points in time. In the process of provisioning infrastructure, certain people tend to play with others, and the relationships that are formed through this practice may reinforce or subvert power hierarchies. Each time a Bajaj driver chooses to leave his assigned route and alter the price from the state-mandated fare, he is improvising in a way that is based on relationships with the passenger, other drivers, and traffic police.

It is through construction that regulations and improvisations interact to build and destroy. It is the willingness of Bajaj drivers to improvise and violate transportation regulations that enables Hawassa residents to move effectively through the city. State-led development interventions also depend on improvisation. In chapter 2, I describe how government administrators in Hawassa used extralegal improvisations to construct asphalt roads in a timely manner. The improvisations of government administrators and Bajaj drivers were based in long-term relationships and social networks. They collaborated with others to respond to precarious conditions. However, not all improvisations are created equally. The improvisations of government administrators constructed asphalt roads that transformed neighborhoods and lives—houses were bulldozed and their occupants were resettled to the edge of the city. The power of particular improvisations generates construction's destructive potential. The improvisations of elder, male government administrators built roads that destroyed the precarious improvisational livelihoods of inner-city residents. This tension has been a key factor in destabilizing the state. To the extent that improvisations support successful construction, they also generate resistance.

## Constructing Legitimacy and the Affective Politics of Infrastructure

Construction is as much about building images and feelings as it is about building things. The EPRDF is heavily invested in discourses of development, and the provision of infrastructure is key to the maintenance of its legitimacy in terms of popular acceptance of its authority. The symbolic dimensions of infrastructure are particularly important. In discussing the "poetics of infrastructure," Brian Larkin explains, "in the case of infrastructures, the

poetic mode means that form is loosened from technical function. Infrastructures are the means by which a state proffers these representations to its citizens and asks them to take those representations as social facts" (2013, 335). For the Grand Ethiopian Renaissance Dam, the title alone provides a taste of the poetics of infrastructure. Although the technical function of the dam is certainly important, the dam is also a powerful symbol that Ethiopia's ruling political party invokes to advance a particular narrative about the future and the passage of time. The degree to which Ethiopians embrace the concept of renaissance and the complex feelings that it evokes partially determines their relationship with the state.

Poetry, however, does not simply rely on direct representations, in the sense that the GERD symbolizes modernity or an asphalt road symbolizes movement. Poetry works by evoking sensory experience, emotion, human relationships, and complex feelings such as nostalgia or loss. The poetics of infrastructure are grounded in the sense of fantasy and desire associated with specific infrastructural technologies (Larkin 2013). "How can I express it in words?" asked a woman regarding a newly constructed asphalt road in Hawassa. "It is like the feeling after your child is wed." Urban Ethiopians experience layers of feelings and attachments for places, things, and the state that may be partially understood in terms of Kathleen Stewart's notion of ordinary affects, which "happen in impulses, sensations, expectations, daydreams, encounters and habits of relating, in strategies and their failures, in forms of persuasion, contagion, and compulsion, in modes of attention, attachment, and agency, and in publics and social worlds of all kinds that catch people up in something that feels like *some*thing" (2007, 2; emphasis in the original). Affect feels like something, but that something is very difficult to articulate.

For many theorists, affect exists precisely in the gap between sensation and cognition (Gregg and Seigworth 2010).[8] Affect is intensity (Massumi 1995, 2002). It is fleeting but also extremely powerful. The value of affect as an analytical tool is that it describes the multiple overlapping resonances and feelings that people associate with objects, images, or experiences. Affect explains much of political life—people often support a party, leader, or regime because something about it feels right. A successful politician is often like a poet, able to convey feelings of fear, unity, or passion by manipulating images and language. The challenge for an analysis of affective politics is to connect the fleeting impulses and sensations of affective experience with the legitimacy of the state.[9] A direct causal relationship between

affective experience and legitimacy is very difficult to identify, and yet the two are inseparable.

Sasha Newell's (2018) analysis of what he calls the affectiveness of symbols offers a helpful path for connecting the affective poetics of infrastructure with the politics of legitimacy. Newell argues that "affective force can also be found lodged in signs and that this is actually the principal manner in which affect transmits between bodies. Furthermore, it is precisely this semiotic transmission of affect that allows the social to permeate the thinking of persons without their conscious awareness" (2). Newell challenges us to consider how affect enables things to communicate. Such communication does not rely on representational language. In the context of a developmental state, infrastructures are particularly charged signs that connect citizens and states through affective communication. Urban Ethiopians feel the state through infrastructures that have multiple meanings and intensities. The experience of construction and urban transformation is a form of affective communication in which citizen/state relationships are continually remade.

I examine sensation, temporal experience, and intimate relations of exchange as three key elements of affective communication through which infrastructures create complex feelings for the state. Each area offers a loose foundation from which to explore the affective politics of infrastructure. In articulating affective politics in terms of these categories, I necessarily simplify and obscure portions of what is felt. However, it is only through a degree of simplification that it is possible to analytically engage with the affective politics of infrastructure.

Urban Ethiopians sense infrastructure through the intense smells from a failed sewage system, the noise of a gas-powered generator, the cooling breeze that comes with a ride in the back of a three-wheeled motorcycle taxi, or the dust from a dirt road that irritates one's eyes and nose. These sensations generate feelings about the developmental state that has staked so much of its legitimacy on the construction of infrastructure.[10] A smooth ride on a newly paved road and an hour of inhaling dust as one bounces over potholes produce very different affective relationships with the state. As I explore further in chapter 3, sensations of infrastructure are processed through discussion and conversation, which then further shape perceptions of infrastructures and the state.

Affective attachments also form on the basis of specific infrastructural temporalities that are connected with ideologies of development (Redfield 2016). For example, in chapter 1 I explore how hydropower projects are

imagined in relation to particular models of development and temporal narratives that are associated with dammed and undammed rivers. Specific things, the dam and the river, signify complex affective attachments to the passage of time. Bodies feel particular ways of moving through time differently. For some there is the headache-inducing stress of change and a life that is continually unsettled. For others, a life without change produces feelings akin to boredom in which the body is physically tired (Mains 2015). Urban Ethiopians often struggle with the feeling of waiting as construction projects stretch on without end. People's relationships to infrastructure and the state are caught up with these complex temporal experiences of change. As Peter Redfield explains in his discussion of the LifeStraw, feelings for certain technologies are connected with a state's "failure to ensure proper material conditions for modern experience" (2016, 174). While massive hydropower projects represent state attempts to secure a modern future, privately owned three-wheeled motorcycle taxis are a result of the state's failure to provision urban transportation. Desires for a specific type of state and temporal experience are inseparable from feelings for particular infrastructural technologies.

In constructing large-scale infrastructures, states redistribute resources. Infrastructures benefit some more than others on the basis of ethnicity, class, gender, age, and location of residence (Harvey 1985; Klineberg 2006; Mains and Kinfu 2016; Squires and Hartman 2006). Protests against the EPRDF that began in 2014 and culminated in the 2016 declaration of a state of emergency were based in part on the perception that government plans and projects benefitted some ethnic groups at the expense of others. The affective politics of legitimacy, however, go beyond a rational calculation of the distribution of resources. They are shaped by exchange and intimate relationships. Throughout the African continent love, intimacy, and friendship have been inseparable from exchange (Cole and Thomas 2009). To have a close relationship with another person is to give and receive. Similarly, relations between citizen and state are based in affective attachments that emerge from the exchanges and redistributions of wealth associated with the construction of infrastructure. This dynamic is embedded in norms surrounding relations of power and exchange that are specific to Ethiopia.

Affect brings together the construction and destruction of the state's legitimacy. The state seeks to secure legitimacy through the construction of infrastructure, but this process destabilizes attempts to manipulate the poetics of infrastructure. When Jimma residents felt ongoing road construc-

tion through mud instead of asphalt, it drove a wedge between citizens and state. In the context of the failed infrastructural development that I discuss in chapter 3, urban Ethiopians sometimes used metaphors of kinship to frame their relationship with the state. Feelings of rejection and betrayal were common. Infrastructures are evocative partially because they are so caught up within intimate relationships between citizen and state. To the extent that the poetics of infrastructure have the potential to bond citizen and state in the common project of working together for an Ethiopian renaissance, it may also pull them apart and leave lasting feelings of animosity.

## Technology, Development, and Multiple Materialisms

The anthropology of development has had a peculiar relationship with technology. Based in mid-twentieth-century modernization theory, development interventions have consistently offered technical solutions to the problem of poverty.[11] In the mid-twentieth century W. W. Rostow (1960) confidently argued that impoverished, newly independent nations in the global south would rapidly modernize by borrowing technology from more developed nations. The claims of modernization theorists rested on the assumption that a technology that is successful in one context will also work in another. Their faith that the introduction of new technologies could rapidly alleviate poverty led states and international organizations to make massive investments in infrastructure. Among the most visible—and controversial—of these projects were the construction of hydroelectric dams in places as different as Egypt, Mozambique, India, and Brazil. Development practitioners argued that technologies such as these could raise all boats. Echoes of modernization theory are common in contemporary analyses of international development. In his influential book *The End of Poverty*, Jeffrey Sachs describes the transmission of technologies as the "single most important reason why prosperity spread, and why it continues to spread" (2005, 41). As I detail in chapter 1, the Ethiopian state is investing billions of dollars in dams partially because of the faith that hydropower technology will support prosperity by generating power and irrigating plantations.

In the case of the Gilgel Gibe III project in the lower Omo Valley, however, the project threatens the livelihoods of nearly 500,000 seminomadic people who rely on the Omo River for water for cattle, fishing, and flood plain farming. The Ethiopian people will ultimately pay the more than $1 billion that the project will cost, but it is unclear whether they will see any

benefits. The bulk of the electricity generated will probably be exported or used in large factories. The dam will also enable the irrigation of monocrop plantations owned by the state and private investors. Land appropriated for the plantations has caused further displacement.

As Karl Marx (1976) explained in his analysis of the commodity fetish, when humans grant power to things, relations of exploitation between people are masked.[12] This is often the case with technologies of development. The Gibe III dam can be read as a case in which the technical solutions to the problem of poverty displace attention from a politics that is concerned with the "means by which certain classes and interests attempted to control the behavior and choices of others" (Ferguson 1994, 237). Marxian scholars of underdevelopment, such as Walter Rodney (1981), argue that technological interventions essentially function as masks for accumulation by dispossession. A classic example is the railroad constructed in Congo under King Leopold's bloody rule. The railway, justified in terms of providing transportation and supporting the growth of markets, in fact was used to export massive amounts of rubber out of the country (Hochschild 1998). In other cases technology was not used specifically with the intent to achieve dispossession, but it obscured the need for redistribution of resources. Randall Packard (1997) describes Western faith in the power of technology to wipe out malaria in sub-Saharan Africa. The belief that pesticides could eliminate malaria distracted attention from the need to alleviate poverty and build up a public health infrastructure to combat malaria and other illnesses. At the time of this writing, the Gates Foundation has invested well over $1 billion in eradicating malaria through technological innovation, but it generally does not consider structural economic inequalities, such as those associated with the extraction of resources, in relation to health. Investments in the development of new drugs to block the transmission of malaria are technical solutions to a problem that might also be addressed in political and economic terms.

Cases such as these lead to a great deal of suspicion among scholars of development. When I encounter promises that technology will alleviate poverty, I immediately want to dig deeper, suspicious that there are structural inequalities to be uncovered. Jane Bennett (2010) explains that this desire to "demystify" has its roots in Marxist historical materialism. For historical materialists, technology is significant largely in relation to production and in shaping inequalities in power over the product of one's labor (Donham 1999a). For Bennett (2010, xv), "demystification tends to screen from view

the vitality of matter and to reduce political agency to human agency." The problem of the Marxist conception of the fetish is that it ignores the very real power of things to attract and engage humans, a power that is no less real than the human relations that produce things (Donham 2018).

Bennett argues that demystification always leads to critique rather than the "possibility of positive formations" (2010, xv), and therefore she pursues a "vital materialism" that distributes agency among a wider field of actors. Attention to the political agency and vitality of things has been a key contribution from the growing number of social scientists studying infrastructure (Anand 2011; Barry 2013; Larkin 2008, 2013; Latour 1993; Mitchell 2002; Truitt 2008; von Schnitzler 2008, 2013). As Andrew Barry explains, "No longer can we think of material artifacts and physical systems such as pipes, houses, water and earth as the passive and stable foundation on which politics takes place; rather, it is argued, the unpredictable and lively behavior of such objects and environments should be understood as integral to the conduct of politics" (2013, 1–2). Vital materialism necessarily gives serious attention to the opportunities and limits created by specific materials and technologies. For example, citizens in Hawassa encounter the state as they use public transportation to move through the city. As I detail in chapter 4, it is through the particular technology of the three-wheeled motorcycle that struggles take place over transportation and the right to the city. Technology does not mask politics; rather, technology is politics. Dams, for example, do not simply push water in different directions to serve the whims of government officials and owners of capital. Both water and the physical structure of the dam act in ways that are outside of human control and produce unexpected outcomes. This was apparent when, shortly after its inauguration in 2010, a tunnel that was part of the Italian-built Gibe II hydropower project in southern Ethiopia collapsed. A given technology pushes and pulls humans in directions that are quite distinct from anything that its creators intended.

I combine vital materialism's attention to particular qualities of technology with a historical materialism that emerges out of neo-Marxist critiques of development. Bennett certainly offers an important contribution in drawing attention to the vitality of things, but this must be complemented with attention to the class relationships and regimes of labor that are essential for building infrastructure. Bennett (2010, 38) asks, "Should we acknowledge the distributive quality of agency to address the power of human–nonhuman assemblages and to resist a politics of blame? Or should we persist with a strategic understatement of material agency in the hopes of enhancing the

accountability of specific humans?" This is a false opposition. There is no reason that one should come at the expense of the other. Combining vital and historical materialism reveals the complex intersections between the agency of humans and technologies, and their implications for different forms of inequality.

More specifically, historical materialism draws attention to labor and relations of production that are essential for provisioning infrastructure. The recent explosion of anthropological work on infrastructure insightfully examines the relationship between technology and politics, but it rarely explores the importance of labor for building and maintaining infrastructure. For example, a special section of the website for the journal *Cultural Anthropology* offers a "toolbox" of concepts to help anthropologists analyze infrastructure (Appel et al. 2015). The toolbox includes important concepts such as data, finance, and materials, but for the most part the people who actually carry a toolbox with them to work—the laborers—are absent. Anthropologists have done well to explore the particular qualities and histories of infrastructural technologies, but they must not ignore the people who build and provision infrastructures.

Developmental states such as Ethiopia depend on inexpensive labor to construct infrastructure, move people through the city, and in some cases deliver basic goods such as water. The state generates conflict as it demands more from human infrastructure, partially in the interest of maintaining its legitimacy. At the same time, the people who function as infrastructure depend on specific materials and technologies that create limits on and opportunities for provisioning basic services. Technologies such as the three-wheeled motorcycle taxi and cobblestone only became widespread in urban Ethiopia at the beginning of the twenty-first century. They carry specific histories that interact with contemporary labor regimes though the construction process (Redfield 2016; von Schnitzler 2013). Particularly in chapters 4 and 5, I draw on Donald Donham's (1999a) exploration of anthropology and Marxist theory to articulate a historical materialism that understands conflict in terms of control over the product of one's labor. I argue that the politics of urban infrastructure must be understood in terms of encounters between productive inequalities and vital technologies.

*Under Construction* is about two cities, Jimma and Hawassa. Both are secondary cities, much smaller than Addis Ababa, but still among the largest cities in Ethiopia. The cities are not far from each other in southern Ethiopia. However, without an asphalt road connecting them, it is necessary to first pass through Addis Ababa, and the journey takes two days by bus. Jimma and Hawassa are both ethnically diverse. In terms of religion, Jimma is split almost evenly between Muslims and Orthodox Christians, whereas Hawassa is split between Protestant and Orthodox Christians. Both cities experienced significant urban development and road construction between 2005 and 2015.

Hawassa is located on the banks of a picturesque Rift Valley lake, and at an altitude of around 5,600 feet, the climate is nearly ideal. It seems that the sun is always shining and a cool breeze is continually blowing in off the lake. I first visited Hawassa in 1999. At that time it was a sleepy town populated by government administrators and a handful of tourists visiting the lake. When I came back in 2001, looking for a research site for my dissertation project concerning urban youth, Hawassa still did not fit with how I imagined a real city should feel. There were few people and markets and little vibrant life, and I soon learned that the city had been founded only around forty years earlier. Instead, I chose to conduct my research in Jimma, a city that had been a regional crossroads and market center for hundreds of years. However, I returned to Hawassa a third time in 2013 to teach at the university and start a new research project, and I found the city transformed. The number of asphalt roads in Hawassa doubled between 2005 and 2015. It had a population of nearly 250,000, a significant increase from my first visit almost fifteen years earlier. As the capital of the Southern Nations, Nationalities, and Peoples' Region (SNNPR), Hawassa had received significant public investment. With its palm-lined asphalt boulevards, bustling shopping districts, growing university, and ethnic diversity, the city of Hawassa attracted migrants from every corner of Ethiopia who were looking for something better. Multistoried buildings housing clothing and appliance shops filled the commercial districts, and Italian-run pizzerias and gelato shops catered to wealthy NGO employees in the posh lakeside neighborhoods. Unlike many Ethiopian cities, beginning in the early 1960s Hawassa developed on the basis of a formal urban plan that organized neighborhoods into large grids.

This was not the sort of Ethiopian city that I was accustomed to—and it was not the image of urban Africa that one generally finds in Western journalistic or scholarly accounts, including my own.

Jimma, however, attracts few expats and tourists. Without a lake or other major attraction it is not a destination for weekenders from Addis Ababa. Jimma is in the Oromia region, on the border of the SNNPR, and unlike Hawassa, it is not a regional capital. This means fewer government and NGO offices. That said, from my first short trip to Jimma in 2001, I have been drawn to its vibrant city center with its views of the surrounding mountains. More than anything, it is the people of Jimma that keep me coming back. Jimma residents seem to have a particular talent for *chewata*, the playful conversation that Ethiopians use to pass the time. In contrast to Hawassa, Jimma was very walkable and during my research in the early 2000s; I used daily walks through the city as a way to meet new people and experience chance encounters with acquaintances. Jimma was not, however, a comfortable place to live between 2010 and 2015, largely because of failed road construction. As I will detail in chapter 2, road construction in Jimma was plagued by delays and setbacks. Asphalt roads were torn up but it was years before they were replaced. In the meantime, moving in the city became difficult, as roads were impassable for vehicles and pedestrians had to negotiate mud and gaping ditches. Although struggles with infrastructure make for interesting conversations, I selected Hawassa as a research site in part because it would be far more comfortable for my wife and two small children who were accompanying me to the field. The strong anthropology program at Hawassa University, where I could teach master's students, was also a factor in bringing me to Hawassa. For the most part, my analysis is not structured around a comparison of the two cities, but their contrasting experiences provide insights into the intersection between development, infrastructure, and governance.

I have conducted research intermittently in Jimma since 2002, and for this project I spent extended periods of time with individuals with whom I have developed close relationships over the years. My first book examined unemployed young men in Jimma, many of whom spent years struggling to find work after finishing secondary school (Mains 2012b). It was returning to Jimma throughout the years and watching these young men find jobs in the construction of infrastructure that led me to this project. In Jimma I developed detailed longitudinal case studies of people whose lives have become increasingly intertwined with infrastructural development.

Research in Hawassa was conducted over ten months in 2013 and 2014 and during short periods of follow-up in 2015 and 2017. I engaged closely with government officials, urban planners, road construction engineers, construction company leaders and laborers, Bajaj drivers, leaders of taxi associations, and residents in rapidly changing neighborhoods, including those who had been displaced by new roads. The Ethiopian government permits only limited access to hydroelectric dams and the surrounding communities. Therefore I focused my research on dams on everyday conversations among urban Ethiopians and state discourse (billboards, speeches, and official documents) promoting the dams. I also examined an anti-dam activist organization, International Rivers, based in Berkeley, California.

I collaborated with Eshetayehu Kinfu, an urban planner and faculty member at Hawassa University, on nearly all of the formal interviews that I conducted in Hawassa. Eshetayehu played an essential role in providing access to government administrators and many of the others we interviewed. Conversations with Eshetayehu were also important for shaping my understanding of the Ethiopian state. Eshetayehu and I have coauthored two articles together (Mains and Kinfu 2016, 2017). When I describe interviews in the text I seek to make clear when Eshetayehu was present and when I was working alone. I did not have a collaborator or research assistant for my work in Jimma.[13]

## Structure of the Book

Each of the chapters explores a particular infrastructural technology: hydroelectric dams, asphalt roads, three-wheeled motorcycle taxis, and cobblestone roads. The one exception is chapter 3, which examines the affective experience of urban change and infrastructural development in relation to the state's legitimacy. In each case the encounter between the specific qualities of infrastructural technologies, labor, and the state both builds and destroys. The chapters explore these encounters to advance specific arguments. I begin the book with an analysis of hydroelectric dams in chapter 1 to demonstrate both the economic and symbolic dimensions of the Ethiopian state's vision of development through infrastructure. For both critics and proponents of dams, policy positions are based in emotional attachments to technologies and their associated temporalities. Chapter 2 examines the relations between asphalt road construction, regulation, and improvisation. Improvisation by engineers and administrators is essential for

constructing asphalt roads, and these roads produce regularities that disrupt the improvisations of inner-city residents. In chapter 3, I explore what urban development feels like and how this shapes affective attachments to the state. Feelings about the state are based in part on how the construction of infrastructures is physically felt through materials such as mud, dust, and water. In chapters 4 and 5, I use a synthesis between vital and historical materialisms to understand tensions between states and the people who provision urban infrastructures. Chapter 4 explores the politics of urban public transportation through the case of the Bajaj (three-wheeled motorcycle taxis). Chapter 5 examines cobblestone roads and the role of infrastructural development in creating jobs for youth. In both cases infrastructural technologies mediate the relationship between the state and the people who provision infrastructure. Finally, in the conclusion I argue that construction as an analytical framework emphasizes both progress and instability, and is essential for understanding temporal experiences in places such as urban Ethiopia that are experiencing rapid transformation.

# NOTES

## INTRODUCTION

1. The World Bank defines a country as middle income if it has an annual per capita gross national income of $1,026 up to $12,475 (World Bank, n.d., "The World Bank in Middle Income Countries"). Ethiopia's per capita income in 2016 was $660, and if growth continues at the current rate of more than 10 percent, the country could reach middle income status by 2025 (World Bank, n.d., "The World Bank in Ethiopia").

2. In the Ethiopian case, international aid was primarily limited to military support from the Soviet Union during the Marxist Derg regime (1974–91). International aid increased dramatically beginning in the early 2000s, and between 2010 and 2013 Ethiopia received more than $3 billion annually in international support (World Bank, n.d., "Data"). However, with a 2013 population of more than 90 million and a GDP less than $50 billion, resources continue to be stretched very thin.

3. Scholars have used the Ethiopian state to support or refute different models of development. Tim Kelsall (2013) argues that Ethiopia demonstrates the importance of a strong interventionist state for creating economic growth. For Peter Radelet (2016), Ethiopia represents an exceptional case in which economic growth has occurred despite constraints on markets and the absence of democracy. My interest in Ethiopia as an exemplar is not to bolster one political economic theory of growth over another. Rather than fitting Ethiopia into a set of prepackaged assumptions, I explore what conclusions can be drawn from this encounter between authoritarianism and massive investments in infrastructure.

4. This argument builds on the insights of others, particularly Livingston (2012), Mbembe and Nuttall (2004), Ananya Roy (2009), Simone (2004), and Tsing (2015).

5. There is a vast literature on the informal sector, a concept first developed by Keith Hart (1973). I have found Breman (2016), Rizzo (2017), and Ananya Roy (2009) to be particularly useful in summarizing earlier discussions of informality and offering new perspectives.

6. Ananya Roy (2009) argues that the value of informality as an analytical category is partially because the term is strategically deployed by the state. Roy explains that the state often uses "informality as an instrument of both accumulation and authority" (81). To label a settlement or practice as informal is to legitimize arbitrary state intervention. Although I agree with Roy that close attention to state discourse and practice concerning informality is essential, the arbitrary deployment of the term is precisely what undermines its value as an analytical category. It is possible to explore how the state deploys the concept of informality without accepting that it is in fact a useful descriptive term.

7. Julie Livingston (2012) also invokes the relationship between improvisation and precarity in her analysis of a cancer ward in Botswana. Livingston contrasts improvised medicine with biomedicine that is based in a global system of knowledge and practice. All forms of biomedicine involve degrees of improvisation, but when equipment and supplies are lacking and training varies, greater levels of improvisation are necessary.

8. Ruth Leys (2011) has convincingly called into question much of the neuroscience that contemporary affect theorists use to support their claims regarding the gap between sensation and cognition. Emily Martin (2013) draws on Ludwig Wittgenstein's *Philosophical Investigations* to question the analytical value of a black box of experience that is somehow presocial and preconscious. Put simply, it is certainly possible that experiences and sensations exist outside of language, but the possibilities for investigating this nondiscursive realm are highly limited. Although I reject notions of affect as strictly nonconscious or asocial, affect still has great value in that it draws attention to sensation, intensity, resonance, and other forms of experience that lurk on the boundaries of representational language. The challenge for anthropologists is to explore how affective communication is incorporated into what Wittgenstein (1953) called "language games."

9. See Connolly (2002) and Thrift (2004, 2008) on affect and politics.

10. My analysis of the relationship between feeling infrastructure and feelings for the state emerges out of conversations with my colleague Peter Soppelsa.

11. James Ferguson (1997) explains that modernization theory and its emphasis on linear stages had much in common with the late nineteenth-century anthropological theory of E. B. Tylor and Lewis Henry Morgan.

12. See Etienne Balibar (2017) for a discussion of the complex relationship between the mystical and material dimensions of the commodity within Marxist thought.

13. Unless otherwise noted, all interviews and conversations were in Amharic.

### CHAPTER 1. CONSTRUCTING A RENAISSANCE

1. The Grand Ethiopian Renaissance Dam (GERD) was originally called the Ethiopian Millennium Dam. Because of its unique calendar, Ethiopia celebrated its millennium in 2007. At the time of the millennium, Prime Minister Meles Zenawi began making specific references to an Ethiopian Renaissance and the concept of *hidase* (Orlowska 2013, 302).

2. Lori Pottinger worked for IR for nearly twenty years before moving on in 2015,