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Cairo Ecologies: Water in Social and Material Cycles

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Cairo Ecologies: Water in Social and Material Cycles

by

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Dedication

For

Hamad and Maryam

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Cairo Ecologies: Water in Social and Material Cycles

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This dissertation investigates the ways in which the natural and the social overlap in the symbolic center of human activity, cities. Cities are full of living organisms, existing not in a perfect state of equilibrium but rather in states of constant flux. The cycles of life moving through the city of Cairo, Egypt are dependent on water as a vital component and scarce resource in systems of biological exchange, as well as one among many pieces of infrastructure that the city requires to survive. This dissertation looks at the informal systems that residents of a squatter settlement in Cairo, Egypt called Ezbet Khairallah have created to make life possible, as well as their attempts to get the state to formally provide these services; work that is done at collective scales and in everyday practices. The dissertation also looks at what happens when areas such as Ezba are successful in getting the state to recognize them and institutionalize utility services; what the hidden costs and unintended consequences are of becoming formal end users of state systems. The dissertation provides an overview of the forces at work in shaping Cairo, highlighting the rural to urban migration patterns and shifting urban policy over the course of the 20th century that have funneled so many into informal housing settlements. In addition, the dissertation highlights the particular material history of Ezbet Khairallah, and how that has shaped the social and material circumstances of residents. It examines the material and affective implications of being unable to escape waste, of bodies that

bear signs of systems that both make life possible and make life difficult. By studying the institutional framework in which these questions get worked out in Egypt, we can better situate the struggles of those living in the urban margins of the global south, such as those in Ezbet Khairallah.

Table of Contents

List of Figures

Introduction

This dissertation looks at the informal systems that residents of a squatter settlement in Cairo, Egypt called Ezbet Khairallah (or Ezba) have created to make life possible, as well as their attempts to get the state to formally provide utility services; work that is done at collective scales and in everyday practices. The dissertation also looks at what happens when areas such as Ezba are successful in getting the state to recognize them and institutionalize utility services; what the hidden costs and unintended consequences are of becoming formal end users of state systems. By studying the institutional framework in which these questions get worked out in Egypt, we can better situate the struggles of those living in the urban margins of the global south, such as those in Ezbet Khairallah.

To understand Ezba, we first must understand the urban context in which it is situated. The dissertation will provide an overview of the forces at work in shaping Cairo, highlighting the rural to urban migration patterns and shifting urban policy over the course of the 20th century that have funneled so many into informal housing settlements. In addition, the dissertation will highlight the particular history of Ezbet Khairallah, and how that has shaped the social and material circumstances of residents. It will examine the material and affective implications of being unable to escape waste, of bodies that bear signs of systems that both make life possible and make life difficult.

This dissertation investigates the ways in which the natural and the social overlap in the contemporary symbolic center of human activity, cities. Cities are full of living organisms, existing not in a perfect state of equilibrium but rather in states of constant flux. The cycles of life moving through the city of Cairo, Egypt are dependent on water as a vital component and scarce resource in systems of biological exchange, as well as

one among many pieces of infrastructure that the city requires to survive. Whether the reason that one doesn't have enough water to drink is due to technical failures, material shortages or disinterest is often under debate. State agencies and international institutions usually assert the privilege of defining the issues, though not always in concert.[1] Day to day realities and peoples' responses often challenge these discursive practices by reframing the "nature" of problems. Looking at the bigger picture of nature in cities requires attention to these political contestations, as well as attention to the array of biological entities that operate within urban space. In the last fifteen years there has been a steady increase of interest in ecologies of cities, moving in to what was perceived as a gap in environmental knowledge that focused on rural "nature."[2] Under the auspices of this new intellectual endeavor, researchers examined the impacts of globalization (Grimm et al. 2008) and informality (Amin 2005) on urban ecologies, attempted to shift the discussion of urban environmental social justice (Schweitzer and Stephenson 2007), and examined backyard gardens as contact zones (Head and Muir 2006a, 2006b). These works are not only bringing nature into view within the city, but also allow us to begin to examine the imbrications of other material forms, including infrastructure, with human and nonhuman lives. By taking seriously aspects of the built environment this body of literature, along with work on the city by such authors at Mathew Gandy and Nigel Thrift,[3] allow us to encounter pipes and streets not just as inert framing objects—or as merely manifestations of state failure—but also as productive of a particular set of possibilities. Examining the urban ecology of Ezba provides another excursion into the

[1] As I will discuss in more detail in Chapter One, there are often differing perspectives in Egyptian government circles and international aid organizations on what the salient and most pressing "problems" are that need to be addressed in the water sector.

[2] See in particular Paris 2004; Turner, Nakamura and Dinetti 2004; Pickett and Cadenasso 2006, 2008; Pickett 2008

[3] Chapter Four utilizes Gandy (2004, 2008) and Thrift (2005) to examine the relationship between infrastructure in the city and affect.

component elements involved in the larger story of humans and the constitutive elements of their environments, what Donna Haraway calls naturecultures (2008). Additionally, such an investigation leads to the many ways in which infrastructure shapes and is shaped by political possibilities in marginalized urban spheres, the everyday contestations over access and affordability, as well as collective actions to shape material realities that highlight the relationship between citizen and state in Egypt. I argue that such stories are important precursors to understanding the seismic political events in Egypt over the last three years.

In order to reach today's political issues, however, we have a bit of work to lay the foundation of thought on the city of Cairo and on the State. In their *Annual Review of Anthropology* article on water sustainability, Steve Caton and Ben Orlove propose treating water as a total social fact, a ubiquitous and irreplaceable element in material and social life (2010).[4] Seeing water as such, as a connector and conductor and illuminator of the things and processes that make life possible, brings the contours of human life into relief. As this dissertation focuses on water in Cairo, the introduction will first turn to the history of anthropological work on the city. Building on the work by urban theorists imagining political possibilities as they arise from the margins of the city, the introduction will then turn to the body of literature questioning the state as the encompassing entity within which political possibilities are enacted. Finally, the introduction will provide an outline of the remaining dissertation chapters.

[4] Caton and Orlove were the Faculty Field directors for a group on water sustainability in 2007 for the Social Science Research Council's (SSRC) Dissertation Proposal Development Fellowship (DPDF) in which I was a student fellow. This group has evolved and expanded over the course of the last seven years into a collaborative cohort of scholars working on water issues across disciplines and regional divisions. It has been a consistent source of support and intellectual engagement.

RESEARCHING CAIRO

Roughly 17 million people live in greater Cairo today, making it the most populous city both in Africa and the Middle East, and one of the most populous cities in the world. Cairo contains approximately one quarter of the total population of Egypt, and half of the urban population (Sims 2010). Much of the ethnographic research conducted in Egypt is focused on this mega-city.[5] Research situated in Cairo in the 1990s dealt heavily with questions of domestic and small scale economies in popular urban neighborhoods, especially as these issues related to gender. Unni Wikan's (1996) work focused on the lives and living conditions in a popular neighborhood in Cairo and the constant struggle for the urban poor to maintain a sense of self respect in the face of nearly overwhelming difficulties. Wikan's account responds to contemporaneous concerns about narrative and the construction of anthropological authority in her recounting of the struggles of a small number of central figures over a long period of time. Her rendition of the perseverance of self-respect has echoes of a culture of poverty argument (Lewis 1969), while attempting a substantive consideration of the many ways that people construct meaningful lives within the systems that shape them as subjects. In a similar vein, Evelyn Early (1993) focuses on health practices in the everyday life of poor neighborhoods in Cairo, and was also interested in questions about reflexivity and narrative. Situating herself as a symbolic anthropologist, Early was looking for the "coded references, the nuggets of cultural wisdom uttered in the cracks of ordinary discourse" from which a sense of the cultural worlds of these urban poor women could be deciphered (1993: 24).

[5] There are several notable exceptions to this focus on the urban. The journal *Cairo Papers in Social Science* has a long history of publishing work on a wide variety of topics and locations in Egypt. Nicholas Hopkins' work in the 1980s examined agrarian transformations in rural Upper Egypt. The work of Lila Abu-Lughod, including the seminal 1987 book *Veiled Sentiments: Honor and Poetry in a Bedouin Society,* focuses on women's live in rural northern Egypt.

Also writing in the 1990s, Homa Hoodfar (1996, 1997) and Diane Singerman (1995, 1996, 2006) examine in great depth gendered norms of labor and marriage choices, survival strategies crafted around micro-lending, food distribution, and management of intra-familial strife. Hoodfar locates her work on the survival strategies of poor urban families in Cairo as an attempt to fill an empirical and theoretical gap in scholarship on household economies the Middle East, as well as a move away from previous work that privileged religion and spirituality. Hoodfar provides a detailed study of men and women's decisions about marriage partners (1997: 55), allocation of labor between domestic work and employment in formal and informal sectors of the economy, consumption practices, and fertility preferences that represent, in her estimation, carefully considered strategic choices that maximize limited resources for low income urban households.

Diane Singerman matches this interest in families, and also speaks to earlier concerns on the nature of political and survival methods in poor urban areas in Cairo. In her work, Singerman attempts to address a theoretical and methodological oversight in the study of politics in the Middle East. According to Singerman, the body of literature on the Middle East that deals with the subject of politics has been almost exclusively focused on formal political associations and the political maneuvering of the elite (1995). Singerman seeks to fill this gap by studying the politics of everyday urban Egyptians, and, in conjunction, works to reformulate traditional understandings of what the "political" is. She maintains that common descriptions of the "political" are insufficient to deal with the complexity of political activities in popular urban communities, what Bayat described as the quiet encroachment of the ordinary (Bayat 1997). Singerman argues that that this is particularly so in Egypt, for two reasons: (1) political repression is so severe for those who openly oppose the state that only a small powerful few can

manage it, therefore driving ordinary or poor people into other avenues to seek their own interests; and (2) the household, perhaps as the result of this repression, or perhaps just in previously unacknowledged ways, is much more integrated into the public field and national economy than was understood in the public/private distinction operative in customary descriptions of politics in the Middle East.[6] Singerman's articulation can be expanded on by taking into consideration the ways in which the urban poor are not treated as citizens in the same way as the vaunted citizens of democratic governance, and by shifting from her consistent focus on the aggregate effects of all of these small acts to allow for the importance of the small scale and everyday as sites of analysis.

Farha Ghannam's (2002) work on a post-1960s planned neighborhood for the urban poor in Cairo, al-Zawiya al-Hamra, reflects changing research interests in cities following the spatial turn in the social sciences (Harvey 1996). Ghannam examines processes of spatial change that began in the mid-1970s with a program of expanding housing into the desert areas surrounding Cairo, channeling rural migrants and the existing urban poor into these new locations. These changes resulted in a disruption of established networks of affiliation and patterns of household residence in poor urban neighborhoods and created new spaces of poverty on the outskirts of the city. This intervention into research on the urban form in the Middle East reflected a broader discourse on the role of the city as the site of modernity par excellence, where space was regulated in new ways and which produced new forms of subjectification.[7]

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[6] Julia Elyachar's 2005 work Markets of *Dispossession: NGOs, Economic Development, and the State in Cairo* takes up the deliberate conversion of these everyday practices and social networks of the poor into particular kinds of value for capitalist markets, value that could be coopted and extracted by NGOs and multinational capital.

[7] Ghannam's piece additionally provides a close-up view of structural constraints on women's movement in public spaces in Cairo and everyday tactics and negotiations that women use to manage social expectations and familial pressures.

In 2006, Diane Singerman and Paul Amar published a work calling for a new school of urban studies, informed by scholars based in Cairo who are taking up "innovative urban research" with broad implications. The newly minted "Cairo School of Urban Studies" was sparked by an attention to social movements in the Middle East and related violence. These social movements were in response to, and served to make clear, new ways in which the legal and political apparatuses of police states are embedded in international structures (2006: 5). Singerman and Amar are calling attention to the imbrications of the Egyptian state with international institutions, capital flows and global systems that result in particular forms of economic disparity and spatial arrangements. They additionally highlight the mechanisms of policing and control that are enabled and deployed though these imbrications (2006: 15). Singerman and Amar contend that Cairo in 2005 saw a new "urban-based, cosmopolitan project of radical democracy," structured as a collaboration, or perhaps just conjunction, of leftists, Islamists, and liberals demanding a renewal of democratic processes (2006: 8). They trace the genesis of this new wave of activity to 2002's mass Arab protests in support of the second Palestinian *intifada*, and see its continuation with the mobilization of the Middle East in protest of the US invasion of Iraq. The new radical democratic project arose, according to Singerman and Amar, from a budding sense of public opposition shared by many across the spectrum of political and social perspectives, collectively calling for "justice, accountability, representation, citizenship, and political and social rights" (2006: 10). Such theorization about political pluralism and popular resistance has come together and been pulled apart over the course of the last three years, since the revolution(s) began in January of 2011. The very beginning of the revolution did in fact seem to span the political spectrum, with people from all persuasions out on the streets demanding the ouster of President Mubarak. The political processes over the three

subsequent years have pulled such overarching narratives of "collective rising from below" apart, as political interests have factionalized in a variety of ways, including but not limited to religious divisions. Since the ouster of President Morsi in July 2013 in what some have called a coup and others a revolution, thorny divisions have become clear in the Egyptian population over Egypt's political future.

Singerman and Amar locate the efforts of New Cairo School of Urban Studies in reaction to two dominant narratives on Cairo since the 1960s, in which Cairo appears as either a bomb or a tomb (2006: 21). The narrative of Cairo as a location of potential catastrophe, be it from population, fundamentalism, or pollution, is balanced against a concurrent view of Cairo as a space populated by thoroughly repressed, subdued traditional peasants quiescent under the thumb of despotic leaders (2006: 21-22). The Cairo as tomb narrative is one that Singerman earlier (1995) debated in her attention to the forms of political activity alive in popular neighborhoods. This new Cairo School of Urban Studies attempts "a critique and careful appropriation" of cosmopolitism, but a post-positivist one (Singerman and Amar 2006: 4).[8] Following Rabinow (1986), Singerman and Amr reject a universal category of humanity on which cosmopolitan subjects can draw. They suggest the usefulness of some possibility for broadly articulated collective belonging for projects of mobilization, but one that engages with the particularities of place. They offer vernacular cosmopolitanism, or vernacular worldmaking, in which the connections that bind are built hand by hand. They see it as an essentially cross disciplinary venture that looks at multiple scales of analysis, attempting to encompass all without losing the specificity of each, and being comfortable with the

[8] A positivist reading of cosmopolitism might argue for moral ideal of a universal human community, to which all humans inherently can or should belong, a global rationality that eschewed parochialism. Iterations of cosmopolitan thought look at the moral, legal, political or economic totalities or absolutes to which humans can or should adhere.

ambiguity that arises (2006: 27). They have multiple visions of what cosmopolitics are already operating in the Middle East: petro-cosmopolitanism, in which neo-Islamist architecture is used to sell luxury goods to wealthy gulf inhabitants while its proponents simultaneously work with the US to repress Islamist radicalism and maintain guest-worker apartheid (2006: 30); and an "emergent post-colonial cosmopolitanism," which operates in the circulation of transnational cultural products, ideas and media in the Arabic speaking world (2006: 31). This is the Twitter and Facebook revolution, a pan-Arab Spring of connection between wired urbanites. In response to these forms of cosmopolitanism that are inherently middle to upper class, Singerman and Amar offer vernacular cosmopolitanism, or vernacular worldmaking. These are the kinds of claims to the city, investments and demands for inclusion by marginalized populations that illuminate the kinds of prosaic engagements with the state that illuminate political potentials. As the city has experienced substantial growth of informal housing, Cairo has become cosmopolitan, not in the sense of a blooming openness for all, but rather as a hierarchy of access to certain activities. The urban poor are responding with crafty politics, which is about "subversive, grounded, fierce and world-weary articulations" of what a communal future could look like (2006: 33).

City spaces have often been the sites around with the imagination is stirred. The imagination of the modern described the city as the site for personal autonomy and political possibilities, which was crystalized by Baudelaire in the idea of the *flaneur* who strolled through the city as a passionate spectator.[9] But this sense of the city needs to be contextualized by situating those possibilities in the ways that people are differentially able to negotiate, cross, and circumvent boundaries that have been left over and/or

[9] Baudelaire 1863 in *Le Figaro*

produced by colonial and postcolonial states (Ali and Reiker 2008b). For some, changes in sociopolitical or economic conditions have in fact given rise to greater mobility, greater freedom in the modernist sense, but these are not Cairo's Carrie Bradshaws[10] enjoying and objectifying the city scenes.[11] As we saw so forcefully during the revolution(s) since January 25th, 2011, the mobility of these marked bodies creates anxiety in other communities, who see them as more freely moving dangers.[12] For some in Cairo, the residents of Ezbet Khairallah pose just such dangers, and this is in part related to the genesis of the area in the 1970s as a place of first arrival for migrants from the countryside.

WHAT IS A CAPITAL "S" STATE?

A number of scholars have taken up the issue of what remains outside of, contradictory to—or radically altered by the current phase of globalization--of the received categories of nations, states, civil society and communities. These authors take a close look at what has escaped explanation, codification, and proved perplexing to scholars looking at a variety of institutional forms in their many manifestations around the world. There seems to be a remainder of human effort and lifeworlds that these "dead" categories[13] fail to express. For some scholars, the activities of popular communities provide a strong foil against which the validity of such received categories

[10] Carrie Bradshaw is the fictional lead character of the HBO sitcom *Sex and the City*

[11] The figure of the *flâneuse*, a female *flanuer*, is useful for what it can show about gendered relations to the city. See for example Wolff 1985.

[12] During the early days of the revolution in 2011, there were news reports that some of the thugs hired by state security forces to beat and harass protesters were coming from Ezba. It's impossible to assess the veracity of that statement from the US, but it would be difficult even in Ezba, as people reconstruct narratives about those days and speculate about the activity of neighbors.

[13] In *Ordinary Affects* (2007), Katie Stewart rejects the terms neoliberalism, advance capitalism and globalization not because the topics or forces are unnecessary to her project, but because the use of the terms belie the imbrications of the forces that they attempt to describe with the world on which they supposedly act, "leave them looking like dead effects imposed on an innocent world" (2007: 1)

can be measured (Appadurai 1996, 2002; Chatterjee 1998a, 1998b, 2004). For other scholars, the notion of seeing the state from its margins (Das and Poole 2004; Sharma and Gupta 2006; Ali and Rieker 2008a, 2008b) or in its everyday manifestations (Abrams 1988; Trouillot 2001; Ferguson and Gupta 2002) serves to de-center these categories in order to open up a discussion of other ways that things happen. Still others take the loose category of informality as a place to start an investigation into what remains silenced in the search for taxonomy. Perhaps the most compelling of these re-envisionings calls for a new mode of paying attention that is awake to the contradictions, rhythms, and flows of people making do (de Certeau 1984) and getting along in the creation of novel networks and communities (Simone 2004, 2008a, 2008b).

According to Partha Chatterjee (1998a), the nation-state is the only form of community or collective project that is currently accepted as valid in the West (see also Amin and Thrift 2002 on the power of the notion of community in urban research, and Tsing 2005 on shadow communities). Chatterjee critically examines the notion of community as it has been articulated as both progressive--the locus of greater meaning for individual lives--and as regressive and illiberal--the site of atavistic holdovers of patriarchy and repression-- in western political discourse. In the post-colonial context in the "East," attachment to large, universalist and impersonal political identities such as the nation were seen to be the unattained hallmark of modernity. The narrative of modernization was often one of the move from local, pre-modern attachments to family, tribe, religion, or location to the modern attachment to the nation-state. Many nationalist thinkers disagreed with colonial assessments that the populace of the East could not make the leap to a modern attachment to the community of the nation, but fundamentally agreed that this leap was in fact the goal. These thinkers contended that not only could people in the East make the change to an attachment to the modern nation-state, but that

they were in fact capable of creating better nation-states due to the inherent spiritual superiority of the East.[14]

Following Foucault (2003), Chatterjee argues that communities often enter the post-colonial state's calculations as convenient categories of the population on which to deploy administrative, legal, economic or electoral policy (Chatterjee 1998: 280). In the process of quantifying and utilizing these communities as objects of governance, flexibility in the boundaries and descriptions of communities that people used to handle social differences were erased to make discrete entities for state action. The conundrum to received notions of the state and civil society presented by these popular communities is that the state is being called on to recognize rights that individuals have as a result of their membership in a group (1998: 281). What sense can be made of these communities who are some of the most active agents of political practice in the "East"? In response to this question, Chatterjee looks at a field of strategic politics, to which he returns in later works (Chatterjee 2004 and 2011). I examine this discussion shortly, but first will introduce a key interlocutor, Arjun Appadurai, who has also thought through the inadequacy of the notion of the "state" in the context of South Asia, but situated its deficiency in the context of the contemporary phase of globalization.[15]

Arjun Appadurai (2002) articulates a theory of deep democracy, in which a hollowed out nation-state is no longer the grounds on which the poor attempt to create opportunities and provide for necessities. Appadurai is looking for the story of the political and the democratic in the world left behind by the disillusionment in, and exhaustion of, what he calls the "two great paradigms for enlightenment and equity,"

[14] See Benedict Anderson's seminal 1983 work *Imagined Communities: Reflections on the Origin and Spread of Nationalism*.

[15] David Eaton (2006) has posed the question about the challenges to sovereignty that arise from the many new ways in which material and social systems extend beyond and often confound national boundaries.

Marxism and modernization/development. Tracing the post-utopian visions of political life and democracy, Appadurai examines the concepts of citizenship, governmentality, nation-states, advocacy alliances, and concrete situations of contestation by networks of poor slum dwellers over access to resources that are operating in the wake of the two great paradigms. The story that Appadurai is seeking to tell is one of the nation-state being hollowed out and made "redundant" by vertical and horizontal networks of nongovernmental organizations and civil society institutions in the provision of basic services to the urban poor. However, the conjunction and cooperation of forces that Appadurai describes as deep democracy does not imply an escape from or even revision of the nation-state. Even in the most celebratory passages, Appadurai clearly demonstrates the vital importance of political recognition. While he casts this as "the politics of recognition from below" he does not offer a story in which the basic terrain of the struggle of individual communities has moved past the nation-state, or a story in which the ultimate goal of recognition escapes the fundamental need to be serviced by the state once recognized.[16] As I will show, in the case of Ezbet Khairallah people coalesced around water and sanitation issues in the blue jerkin demonstrations in 2008 and were able to get a wastewater collection service built in their area. The construction work was done by a local contractor, with international donor funds, but the recognition of Ezba as a location, and of their need for services, had to be made by some aspect of the state to get these other entities in operation.

[16] Speaking in response to an earlier piece by Appadurai (1996), Kaushik Ghosh (2008) questions the elevation of the transnational as a site for political possibility for indigenous communities that supposedly escapes and exceeds the state. Using the case study of a political movement by indigenous communities against two proposed hydroelectric dams, Ghosh demonstrates the ways in which these communities had long been finding space within the state system to make claims and contest exploitative actions and how such possibilities had been erased or misrecognized by leaders seeking a transnational indigenous activism.

According to Chatterjee (2004), the movements of NGOs and activisms that Appadurai cites are not outside of the nation state, but fundamentally constitutive of the nation-state itself in "most of the world."[17] Chatterjee argues that the forms of political mobilization that are occurring in many non-western local places are forms that cannot be described under the rubric of civil society, but rather utilize traditional or alternative systems of obligation and privilege to negotiate and secure resources. Unlike the arena of civil society in which equal, rights-bearing citizens lobby the government for rights, the arena of political society occurs at the level of community and is occupied by participants who do not qualify as equal citizens before the law.[18] In the arena of political society, communities negotiate with the institutions and representatives of modern governmental systems by operationalizing a variety of personal, affective, politically strategic, or "traditional" methods in order to secure resources and manage new governmental programs in their area. Two key components of Chatterjee's "political society" are the investing of these population groups created by modern governmentality with moral content in order to establish the community's legitimacy as an entity vis-à-vis the state, and the bargaining of votes in local elections for the promise of municipal services and recognition, even if tacit. As I will demonstrate in Chapter One, votes-for-service swaps are key to the history of utility service provision in Ezbet Khairallah, from electricity to sewage collection. These alternative forms of political maneuvering often do not conform to expectations of transparent and egalitarian political activity, but Chatterjee contends that these are in fact very modern adaptations to current forms of governmentality.

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[17] This refrain also echoes in the work of Singerman (1995) on how deeply imbricated the personal and small scale are in national politics in Egypt.

[18] In reading Maha Abdelrahman's 2005 book *Civil Society Exposed: The Politics of NGOs in Egypt,* the lines between civil society and political society seem to blur.

A central site at which these adaptations become visible is in the everyday relations between people as modes of power get worked and reworked in each interaction. Indeed, much recent scholarship on the state privileges the everyday, spatialized, and complexly licit and illicit nature of the state form and state power. Ferguson and Gupta (2002) suggest that looking at the daily personal practices of people in relation to state institutions, and of individuals within these institutions, helps to break down the over-arching territorial claim of the state itself. They challenge the metaphorical operation of verticality and encompassment that function in much of the social science work on the nature of states and related entities, such as civil society, which function to create the perception of a solid and omnipresent entity. As I will discuss in Chapter One, the myth of territorial reach for the Egyptian state is neither complete, as in all of the many ways that other structures supersede the putative boarders, nor is it unimportant, as in the reorientation of the Oasis of Siwa.[19] Ferguson and Gupta suggest that future research should become attentive to the ways in which states are created in the process, and are essentially composed of, the minutia of daily interactions between subjects and individuals who function in various capacities as state representatives.[20] As an example, they give us the scene of a bureaucrat conducting a surprise visit to the schoolroom run by an Integrated Child Development Service Program worker (Ferguson and Gupta 2002: 984). According to Ferguson and Gupta, the very process of supervision and the mobility required to accomplish the surprise visit were intended to instantiate a hierarchical state structure. Rather than accepting well-worn preconceptions of the nature of the state and state power, they invite researchers to

[19] I will return to the example of Siwa Oasis in Chapter One, examining how the changing boundary marking practices of the Egyptian state have impacted one small outpost in the country.

[20] See also Das and Poole 2004 on the role of state workers as simultaneous representatives of state power and also informal power in local networks, a topic I will return to in Chapter Three.

investigate the daily practices of state institutions and representatives and the spatiality of all forms of government (2002: 996). Following this invitation, Chapter Three discusses the social lives of water objects in Ezba, two of which (the meter and the bill) are products of institutional designs to measure and manage water.

In a similar vein, Michel-Rolph Trouillot (2001) proposes that it is not only state institutions that should be subjected to a thorough review, but also those organizations that have taken over some of the functions traditionally reserved for the state. Trouillot does not agree with the conceptual death of the state maintained by theorists such as Radcliffe-Brown (1995[1940]; as cited in Trouillot 2001), in which the state ceases to be and only the component institutions--or their extra or intra-state successors--can be seen, but Trouillot does take seriously the notion that continued theoretical references to the state as such reaffirm problematic elisions of power (2001: 126). These state-like institutions must also be contextualized in the day to day process of their management of health care services, welfare distribution, or water and sewage management, as in our case here. Trouillot's analysis calls for a view of the state not as an apparatus, contained in particular institutions or boundaries, but rather a set of processes through which relationships of power are worked and reworked. Whether it is the contractor digging trenches to put in pipes, the bill collector trying to work out a bribe for how your meter is read, or police officers stopping a bus to see who is headed to Ezba, social relations of power situate the residents of Ezba in webs of possibility and closure. There are spatial or institutional iterations of particular state processes, as "national states" create countries and countries are defined in some fundamental ways by boundaries, however shifting and uncertain (2001: 133). In fact, in the spatial interactions of state and global capital circulation, entire spatial realms have become extraneous and irrelevant, with devastating

effects on the populations living within them (2001: 131).[21] Ezba is not an iteration of Agamben's camp (1998), as the ties that bind it to other spaces and people in Cairo are strong and many, and they have had particular kinds of successes in getting state recognition, as I will demonstrate by looking at the implementation of a sewage system in Chapter Three. However, the tenuous nature of the acceptance has given rise to particular kinds of anxieties as improvements are made to the services connected to the area—if the space is being improved, are the residents currently living there without tenure really the intended recipients? Trouillot suggests that the study of states-in-particular should begin with close attention to the day-to-day (2001: 133).

In a similar vein, Timothy Mitchell (2006) extends this insight about the connection between states and the everyday on its head by contending that the appearance of the state as a discrete and relatively autonomous social institution is itself a reification that is constituted through everyday social practices. The line between state and civil society gets drawn in exercises of power and social control. Aradhana Sharma and Akhil Gupta (2006: 9) argue that academic disciplines, including political science and other social sciences, have participated in discursively constructing the state as a distinct entity with particular functions. Both the practices of social science disciplines and their practitioners, experts, themselves serve to deploy and legitimate strategies for governing populations and communities. The analysis of these processes of state formation focuses attention on what otherwise would seem mundane activities and mechanisms, such as collecting taxes, providing welfare for the poor and constructing a world of paper certifications (2006; see also Poole 2004). This revision then implies that the state becomes one among many institutional frameworks within which people live

[21] See also Agamben 1998, 2005; LiPuma and Lee 2004

their lives, the others including a wide variety of networks and relationships. To our story of Ezba, we add to the police officers and bill collectors a cadre of aunts and uncles, previous neighbors, and colleagues-- as well as pipes, tomatoes and water pumps[22] -- that make life possible.

These theorists offer readings that focus on the group or community as a locus for alternative theorizations of life and survival, work that helps to provide a framework within which to analyze the ways that people survive, the consequential worlds that they construct, in the increasingly dire economic, political and ecological conditions of urban poor neighborhoods of Cairo. Water is a central material and social key with which to examine how people craft vernacular worlds, and lives as meaningful individuals and within communities and networks of association. Water is one link in the chain that shapes the circumstances within which people create lives and livelihoods, creating vernacular worlds, and connects them to other subjects in their associations throughout the city of Cairo.

METHODOLOGY

The methodology for this projected was developed to illuminate how water circulates materially and socially through the neighborhood of Ezbet Khairallah, how the process of distribution and use of water and management of wastewater is carried out within networks, and how the processes of negotiation between residents of Ezba and state institutions operate on the day to day level. I carried out research through semi-structured interviews and participant observation for 16 months between August 2009 and January 2011. Participant observation comprises an essential element of the ethnographic project, and is defined by Hesse-Biber and Leavy (2006) as a process in

[22] See Chapter Four on Water Objects for a discussion of these items, as well as meters, bills and sabils

which researchers enter into the world of their research site and learn how to interpret the world using the tools of those around them. I conducted participant observation in community homes and businesses in order to understand patterns of domestic consumption of potable water and management of wastewater. This aspect of participant observation is particularly significant for this project's choice of the day to day as the central analytical framework through which to engage questions of the state, community and social networks.

I carried out participant observation with a key group of nineteen community contacts, divided among ten households, in my research site. During weekly visits with each of these households, I participated in their daily tasks, particularly as they relate to water. This included washing dishes, scrubbing rugs, doing laundry, cooking food, bathing children, cleaning the street outside of the home and dampening it with water (to prevent dust from rising in unpaved streets), feeding domestic animals, and collecting and storing drinking water in jars, jugs and jerkins while water is running to tide over families during periods when water provision is cut. Related to the establishment of the new sewage system in Ezba, I participated in supervising the removal of septic tank contents, filling septic tanks with debris once they are no longer needed, providing assistance to contacts in Ezba who are working to repair damage done by sewage water on the foundations of their homes, replacing faulty piping, and remodeling homes after the sewage system had gone online. The implementation of a sewage system in the area enabled me to further observe the day to day dynamics of water management, the negotiations between community members and representatives of the state as they are thrown into close and daily contact, and the unfolding of relations between the community and the array of non-human others with which they are connected, from parasites to the built environment.

Interviewees were selected based on the "theoretical sampling" method whereby the results of each interview or set of interviews determines the selection of the subsequent set of interviewees and interview questions (Hesse-Biber and Leavy 2006). Additionally, more formal selection of interviewees was based on their positions in government institutions and local and international organizations dealing with water resources and sewage issues. I interviewed everyday users of these water resources and sewage systems and government administrators and non-governmental organization workers dealing with water infrastructure. These interviews were primarily conducted in Egyptian Colloquial Arabic, with a handful of interviews with high-level representatives of international institutions and Egyptian agencies taking place in English. The use of an interpreter was required for three interviews in Arabic dealing with highly technical language. Interviews were conducted in a variety of locations, as dictated by local conventions regarding private and public space and gender mixing.[23]

OUTLINE OF CHAPTERS

One possible map of the city of Cairo is a map of pressures, flows and stoppages of all things liquid. This dissertation examines the urban context in which Ezba came to be, and the ways that this particular location has been carved out as a place of danger and intervention, and what that means to the people who live there. It looks at the everyday and collective actions that Ezba residents have engaged in to gain utility services. These collective actions around everyday concerns are important stories leading up to the revolution(s) that started in 2011—protests for sewage collection in Ezba, or labor protests in al-Mahalla al-Kubra, or even mass celebrations for soccer victories, activities that got people out on the street, sharpened skills in collective action, moved them face to

[23] As Farha Ghannam described of her own field work, my status as a young married woman gave me a great deal of access to homes but placed certain limitations on my movements in the public sphere.

face with the gatekeepers and security forces of the city. Coverage of the revolutions often tells the story of middle class kids on Twitter and Facebook connecting and instigating large scale political change. It is true that new media played a role in making things visible and connections across space possible in new ways, such as the *Kullina Khaled Said* (We Are All Khalid Said) Facebook page about the young Alexandria man who was brutally beaten to death by the police. That story needs to be complicated with the everyday engagements, challenges, flexibility and ingenuity that Egyptians living in places like Ezbet Khairallah deployed in their interactions with representatives of state institutions to make life a little more possible in the circumstances in which they found themselves. As Mark Allen Peterson (2011) admits of his own work in the book that went to press just after the revolution began, this dissertation predicts neither the beginning nor the end(s) of the revolution(s) in Egypt. Instead, the humble hope is that it sheds light on the sets of political possibilities, mobilizations and accommodations that some Egyptians living in the urban margins utilized to make their lives possible.

Chapter One lays out the sources of water in Egypt and the ways that various actors and institutions make sense of it, getting a reading of the ways in which the political and material are shaped by the power of rhetoric and description. In particular, rhetoric about the geography of Egypt, and the putative mismatch between space and population in the country, sheds light on the way in which Egypt is constructed as an object of development need for international organizations such as the World Bank and the IMF, and to some extent the governing structures of the country itself. Look at how narrow a band of habitable and fertile land there is in Egypt, just take a look at the map that shows the narrow ribbon of the Nile river slipping through a rectangle of sand, the refrain goes. How little room to grow, it seems; grow in the sense of expanding populations and grow in the sense of raising crops to feed the nation. Taking a closer

look at the function of this refrain to characterize Egypt as place in danger, a country in need of expert management, a picture emerges of Egypt's material basis being understood and manipulated in ways that help to justify particular forms of structured inequality.

This is not, however, to imply that the Nile river is not a significant part of stories told about Egypt, rather that there are many possible versions given how multivalent it is. One version is the history of the colonial and nation-state political forms in Egypt being fashioned in the process of attempting to manage the river and other water resources in the country, including the four aquifers that provide some additional water for consumption. Chapter One provides an overview of the institutional arrangements that have been created and reformed in the process of attempting to manage water resources and provide water-related services in Egypt, particularly in the capital city of Cairo. Potable water and wastewater services were implemented in the context of changing notions about the nature of disease and contagion, as the technocrats and citizens-to-be of the city needed to be protected from the plagues that arise from so many bodies sharing space and infrastructures.[24]

In 2004, a new iteration of institutional form for water and wastewater services, the Holding Company for Water and Wastewater (HCWW), was created by presidential decree. The HCWW was intended to restart the stagnating and incomplete conversion of water and sewage systems in Egypt into self-sustaining entities, so that the maintenance and operation of these systems were no longer the responsibility of the central government. The HHCW was to provide guidance, technical and managerial advice to the companies below it, and each governorate then has a subsidiary company providing

[24] See Nancy Elizabeth Gallagher 1990

direct services. In addition to the HHCW, the Egyptian Water Regulatory Agency was set up to provide oversight in the water sector. There are two central concerns of these entities and their international donors. The first is low tariff rates, which make it difficult to recuperate operating costs and invest in expansion and repair work. The second is the number of employees of the various water companies, where the situation is described as one in which there are far too many people for the required work, and too few with the necessary skills. The difficulties experienced administratively have resulted in several incidents in which untreated water has caused illness, a few of which I will detail in Chapter One. After the January 25th revolution in 2011 and subsequent election of President Mohamed Morsi, the water sector was again reformed by the creation of a new ministry, the Ministry of Drinking Water and Sanitation Facilities, with the role of oversight over all of the other water and sanitation entities in the country.

Moving from the national scale to the local, Chapter Two introduces the research location, Ezbet Khairallah and the urban context of Cairo. Egypt's capital city of Cairo incorporates earlier cities of Memphis, Giza and Fostat; the remains of the latter are situated very close to the Ezbet Khairallah, an important note in the story of how Ezba got a state-run sewage system. In the twentieth century, the city saw significant expansion in informal housing, with waves of rural to urban migration that filled in the agricultural land in villages surrounding Cairo, and built on areas of state-claimed desert land. The first large wave of building of informal housing of the century was comprised of people coming to the city to work in newly formed industries who could not find sufficient space in the formal housing market due to building and zoning regulations. People followed, and continue to follow, chains of kinship and acquaintance from areas in Upper Egypt to particular locations in the city. Development within these areas tended to follow the pattern of having little open space left for public facilities, small building

footprints, and coverage of the entire plot of land purchased. Despite these similarities in building styles, some informally developed areas, *al-manatiq al-gheir mukhattata* [unplanned areas], more commonly referred to as *ashwa'iyyat* [random], were stigmatized as more dangerous than others. Ezbet Khairallah has been marked out as a particularly perilous space. As I demonstrate in Chapter Two, the material disenfranchisement of Ezba as a place is both produced by and productive of particular types of social and institutional disenfranchisement of the residents. As I describe, simply getting into and out of Ezba tells its own story of how an area that is a few short miles from the city center can be cut off—at least formally—from the infrastructural services that tie the city together. Part of the difficulties of ingress and egress in Ezba are due to its location along the rise of a hill, and across a plateau, creating some physical barriers to easy transit which have been compounded by infrastructural developments or lack thereof.

The limestone plateau on which Ezba is built was slated to become a luxury housing developed by the Maadi Corporation. However, the Ministry of Antiquities stepped in after the special permit to build on the location had been issued, and attempted to preserve the ruins thought to be buried there. During the impasse between these two entities, people from rural areas in Upper Egypt moved in and began buying land from gangs and building the foundations for multistory family homes. At several points along the way, security forces were used to attempt to evict those living in the area, but people fought back and rebuilt what had been demolished.[25] As time progressed and the density of the area increased, Ezbet Khairallah has become an area that must be reckoned with despite what various state entities, or their representatives, may have wished. Utilities

[25] One interviewee described having barricaded the road from Zahraa with barrels of flaming oil to prevent police from entering.

that were first absent were then connected illegally through DIY piping and electricity cables, and then slowly became formalized through mutual interests and electoral politics. The state had long been "seeing without seeing" areas like Ezba, what I will describe in Chapter Four as *ist'bat*, allowing them to exist without formally providing them with services. The practice of *ist'bat*, deliberate misunderstanding or misrecognition, is part and parcel of how Ezba residents, and state and state-like institutions and their representatives, manage their engagement with each other. For example, residents of Ezba do not have formal tenure rights to their land, but they are able to register for food subsidies based on their residence there, and they are able to vote for candidates specifically elected for the area in which they live. In terms of water resources, the HCWW estimates that they lose some 30 percent of the potable water that they treat, which they know is partially due to water leaking in the system and partially due to water being syphoned off by informal connections to the state system. Representative Dr. Mahdi Alam referred to it as the governorate "seeing without seeing" places like Ezbet Khairallah (I describe this interview in Chapter Four). In fact, he implies that overeager civil servants who try to palpably see such locations put themselves at risk for having disrupted the façade. Residents themselves work to selectively engage and evade state involvement. For example, Ezba residents were keen to have the state sewage system put in place, and worked to make that happen. However, the potential monitoring of what goes down the drain brought its own sense of unease among residents as conversion of one utility into an official system brought other informal arrangements into view. Residents want the state to see them, but not necessary to observe too closely.

After the rock slide disaster in Duweiqa in 2008, which I will describe in Chapter Two, Egypt's visual acuity improved, although the response by residents of Ezba to being

seen hasn't always been enthusiastic. After Duweiqa, a new system of categorizing informally settled areas was developed, and along with that has come some demolition of areas that have been deemed an immediate threat to inhabitants; other areas are merely unplanned and slated to be addressed at a later stage. For all of these freshly mapped and classified locations, the stated goal is to tie them in to state utility and infrastructural systems. This is a two-way street in which the governorates become responsible for providing services to a greater number of locations, but residents of these locations then become responsible for paying for services that had, in many though not all cases, been previously gained extralegally.

In Chapter Three, through sharing ethnographic pieces on everyday life in Ezba, I provide a view of how people managed excess wastewater as the sewage systems changed over the period of my research, as well as gesturing towards the social and bodily implications of being surrounded by waste. When residents of the Ezbet Khairallah began building more permanent houses of concrete and brick, they dealt with wastewater by building a *transh*, or septic tank, into which all household water flowed. The *transh* was an unlined concrete box buried in the road in front of the home, and when it became full a septic removal truck had to be found to suck out the contents, at a dear cost to residents. There was a great deal of sewage spilled over in these arrangements, as households struggled to make the systems of filling and emptying match up temporally and financially. In addition to overflow, there was a great deal of seepage as tanks were cracked or damaged by passing vehicles on the roads above, or simply wore out over time. The resultant sewage water on the loose trickled down into the porous limestone on which the area rests and ate away at the rock, and mixed in with potable water anywhere there were cracks or holes in pipes and junctures in the Do It Yourself (DIY) potable water piping system. Puddles could become veritable lakes of untreated sewage on side

streets and get churned into deep pits of unpassable mud on the unpaved main thoroughfares of the area. The abundance of stagnant sewage water provided a habitat for mosquitos, flies and other insects, and compounded issues with undesired biological neighbors (rodents, feral cats and dogs) living off solid waste that accumulated in the area due to changes in garbage collection systems in the city as a whole. Smell became a way to index the material and social implications of all of that "matter out of place" (Douglas 1966), and often arouse to public consciousness as a palpable sign of state neglect and social exclusion. In one particularly telling exchange that I caught in a shared taxi into Ezba, the scent of the area was used to qualify the value of the people living there. Moreover, scent is one way of beginning to count and account for the many creatures that are connected to each other, willing or not, through city infrastructure. All water appearing in the street is subject to public debate because water casually discarded could fill a *transh* and become someone else's responsibility to remove. Conflict and cooperation arise in moments when the sewage spilled over, as the story of Nabeela's engagement party will show, and appear again as the *transh* system gave way to the state-run sewage system, as the story of Asma's final elimination of the no-longer-needed space demonstrates (see Chapter Three).

Moving from the issues around sewage water in Ezbet Khairallah, Chapter Four examines five water objects related to potable and virtual water; meter, pump, bill, tomato, and *sabil* or water fountain. Through detailing the social lives of these material items, I attempt to elucidate the daily practices of managing potable and virtual water in the networks that support and constrain residents of Ezbet Khairallah. Utilizing work by Nigel Thrift (2005) and Mathew Gandy (2008) on urban infrastructures, from the pipes and concrete to the structures of affect within the city, a picture emerges of how people in Ezba are making life work in the present and how they are planning and hoping for a

future that may or may not bring more safety and comfort. Looking at our first water object, the meter, we see that in Ezba, and in many informal areas in Cairo, water meters are not widespread. As the sewage system has been put online, the cost of installing a water meter for potable water consumption has increased significantly, catching people in the double bind of promising formal recognition of land tenure rights through utility bills but at exorbitant cost for installation. Some people are able to leap that financial and logistical hurdle on the path to becoming recognized owners of the land and buildings that comprise their homes; others are priced out of the market and not able to build the file portfolio that has the promise at least of making their home "official." Gaps in the treatment and distribution systems of potable water in the city make it difficult to truly measure usage, which is reflected in the ways in which billing happens. As Chapter Four will detail, there is no consensus about whether or not the bills received actually reflect the services received, partially due to the inability of the state to accurately track on systemic levels, and partially due to work by the residents of Ezba and representatives of these state entities trying to bend the system to their own advantage.

Engaging with another of our water objects, looking at the story of an argument over the purchase of a water pump in one of the apartment buildings in Ezba shows how improvements in one portion of larger water systems can put in stark relief the cracks and failures in other portions of infrastructure. Once the state sewage system came on line, water restrictions that had been imposed by the limited space in a *transh* were eliminated; however, there were still problems provisioning all of the apartments in a tall building without supplemental pumps to enhance water pressure. Can neighbors demand of each other contribution to a common good, if they don't have the resources to put into the pool? Following the movement of tomatoes in Ezba, another of our water objects, captures a bit of the cartography of affection and connection that make life possible in

Ezba. Finally, the sabil or charitably funded water fountain reveals how people plan for the future and work through difficulties in the here and now. The dissertation does this work in order to examine how water can help us to make sense of the ways in which built forms relate to political possibilities in marginalized urban areas.

Chapter 1: Water in Egypt

Research about water asks some basic questions, some of them technical, about how water gets from here to there, and about how much time, effort, space, money, and pressure it takes it to go from point A to point B. Other questions extend the technical into the social, focusing on why it goes one place and not the other, or only at certain times, or about why some places have buildups of wastewater while other areas seem to be spared. This chapter examines the shifting institutional and organizational paradigms that have worked to shape relations between water and people in Egypt. Through examining the sources of water that enable life in Egypt, a picture emerges of struggles over what matters about water, how to measure it, and what different scales of analysis enable or preclude from view about how political and material systems intertwine. While the Nile is the main source of water for most agricultural, industrial and domestic uses in Egypt, the ground water in aquifers is an important part of the story of possibility in Egypt, as is soil water. In all three of these types of water, our story bumps up against the state. In the literature about water, be it on riparian relations along the Nile or reports on the status of sewage collection systems, we find a state that has borders over or under which water flows, and within which policy and institutions must be established to manage water. Reading recent work on the "nature" of the state as was done in the introduction to this dissertation, the state as the de facto category of analysis begins to make less sense. Do states really have firm boundaries, a territorial body? Ferguson and Gupta (2002), and Trouillot (2001) would argue that they do not. Does the State manage water, or, as Mitchell (2002) argues about the case of Egypt, is the state created in part by its never-wholly-successful attempts to manipulate the material world? This is where water and notions of the "state" as such meet; in the details of conceptualizing and

managing resources at hand. In particular, what is the role of institutions—are they constitutive of a state, like body parts? Or are they part chimera, creating the perception that such a thing exists? Where are the people in our story, the intersectional beings with their raced, classed, and gendered (and othered) bodies?

The next three chapters of the dissertation take on the last question above, looking closely to see how people in a particular location are making sense of water in the context of the institutions within which they are embedded. This chapter lays a framework for those stories by providing an overview of the history of the water and sanitation sector in Egypt. As will be shown, the various institutional components of what we call the Egyptian State are disjointed and often oddly aligned, for reasons having to do with colonial histories, international donor groups, military dictatorships, and the accretion of time that has solidified certain flows, while blocking others.

The 2010 Untied Nation General Assembly's declaration that access to safe and clean drinking water and improved sanitation services are fundamental human rights articulates an ambition to include the provision of water and wastewater services to all as a moral and structural obligation of states.[26] Yet, in many rural and urban zones the social contract of the welfare state has been broken as a result of inability or unwillingness to invest in appropriate infrastructure. Communities are often left without water services and then criminalized for its "theft." In the case of Egypt, this dynamic plays out against the backdrop of massive government investment in new water and sanitation infrastructure for wealthy enclaves being built on reclaimed desert land,[27] making dire under-provision or non-provision of water and sewage services in slum areas

[26] UN Resolution 64/292 http://www.un.org/es/comun/docs/?symbol=A/RES/64/292&lang=E Last accessed March 30, 2014

[27] Such wealthy enclaves were built largely by businessmen closely associated with the Mubarak Family. Talaat Moustafa's Al Rehab is just down the street from the new desert campus of the American University in Cairo. See Dennis 2006.

of major cities all the more glaring. Here, certain sections of the population have been singled out for maintenance and protection, while others are left without the necessities for biological survival (Foucault 2003; Butler 2004). Places like Ezbet Khairallah highlight the gap between the ethical impulse encapsulated in the UN's 2010 elevation of access to potable water and wastewater services to the status of human rights, and the realities of many poor areas around the world where the expansion of services is often haphazard, rife with corruption, and fundamentally insufficient to the needs of residents.

THE SOURCE(S)

Generally regarded as the longest river in the world[28] and flowing some four thousand miles, the Nile is the primary source of water for Egypt and ties it in fraught, long-standing relationships with upstream riparian neighbors. A river of ink has been spilled about the importance of the Nile to the changing geographical and social forms of Egypt through time, and about relations of force and precedence that have shaped the legal and material arrangements for allocation of water along the Nile's length.[29]

[28] There is some debate about whether the Nile or the Amazon is the longest river in the world.

[29] The 1959 treaty between Egypt and Sudan allocated all of the water of the Nile River between the two countries, with Egypt to receive the lion's share at 55.5 billion cubic meters and Sudan to receive 18.5 bcm of water annually; while allocating no water to eight upstream neighboring countries (Rwanda, Burundi, Democratic Republic of the Congo (DRC), Tanzania, Kenya, Uganda, Ethiopia, and Eritrea). In 1999 the Nile Basin Initative (NBI) was established in an attempt to increase cooperation between the riparian neighbors. See Allen 2000.

Figure 1: Image of the Nile River from Google Earth; locations and borders added by author and are not exact. Image captured on March 29, 2014

In a certain sense, it would be true to say that there is no Egypt without the Nile, as some 95% of the population of 80 million people live in the 4% of the total land mass of Egypt: in the fertile valley of the Nile (Melesse 2011). The remaining 96% of the geographic area of Egypt is classified as non-arable land, primarily desert, and is sparsely populated (2011). Or so tell us the documentary sources for national snapshots and international testimonials about the dire state of the world's water supply. Such pictures neither unpack the science behind such measurements—What hidden guesses, hunches and assumptions lie in the big picture?--- nor do they contain within their imagery all of the ways that Egypt's borders and middles do not line up with maps that calculate down to the square kilometers of a country. Troubling borders is an established right of the geographically sophisticated social sciences, as the introduction showed. Egypt is, of course, not as neatly demarcated from Libya or the Sudan as pictured; people within landscapes measure their affiliations in scales and linkages that may be parallel or tangential to state claims of overarching territorial bodies. Nor is the water, in a material or social sense, simply flowing south to north in an endless preordained trajectory. These big picture shots of what Egypt is, and how it lives along the navel of the Nile River, miss also the little places scattered through sage-brush desert, the camels who find enough moisture to live in the great sand sea, chains of life along the Mediterranean and Red Seas that include half-lives of hulking unfinished holiday villages (Cole and Altorki, 1998).

But of course, such big pictures also matter, as boundary making practices of state entities such as the army and passports and selective recognition of bodies as citizen or foreigner orient places. Such was the fate (in the ethnographic present) of the Oasis of Siwa, located along the border with Libya. In the past it had been deeply entwined with the nearest oasis to the west, Jaghbub, as the residents of both oases are largely one

linguistic unit and tying many family threads together of the Tamazight people's easternmost outpost along North Africa. After hostilities between President Sadat and Moammar Gadhafi over just who had claim to the western desert of Egypt (or eastern desert of Libya), a firm line appeared that severed such "easy" contact between the oases as a one day trip between them by donkey could manage. Now all travel between Siwa and Jaghbub must first be routed 300 km north through the boarder at Sallum, and then south again to reunite family, on pain of punishment for smuggling. After this cutoff, firmer and deeper grooves have been made in tracks leading to Marsa Matrouh on the Mediterranean coast and eastward to Alexandria and Cairo. The whole oasis pivoted to the right, turning its face to the sun in the east for official recognition, birth certificates, deliveries of fruit and vegetables, and universities. Young Siwi men now head off to the Gulf States in search of work, where their fathers once had headed west to Tripoli or Benghazi. Such state claims to territorial boundaries matter. But, things change. With the revolutions in Egypt and Libya over the last four years, this border area has become more porous again—though not all such stories are happy ones, as the reality of smuggling food between Siwa and Jaghbub is also the reality of smuggling guns and other things.

The water that makes these oases possible comes from aquifers, of which Egypt has four of substantial size. The Nubian Sandstone Aquifer is the largest and is unique in its size, covering some two million square kilometers across Egypt, Sudan, Libya and Chad, and for the fact that the water is fossil water. Fossil water is water that has been trapped in an underground location for a very long time, possibly thousands of years, and which does not receive substantial recharge from precipitation.[30] The Nile, Moghra and Coastal Aquifers in Egypt are meteoric water, or water that comes from precipitation, and

[30] Gossel et al 2004 describe the issues in estimating the extent and condition of the Nubian Sandstone Aquifer due to research that was limited by state borders. Heinl, M. and U. Thorweihe (1993) estimated that the Nubian Sandstone Aquifer houses 150,00 square kilometers of water.

are renewable (Hefny, Farid, Hussein 1992). When looking at the future of water needs in Egypt, and in other areas above the Nubian Sandstone Aquifer, arguments have been made to tap in to these aquifers to a greater extent to meet the requirements of growing populations (1992), although there is debate about how to best estimate aquifer yield (Eaton 2013). Where these extractive practices have started in earnest, desertification has become an issue. Such withdrawals of water from shared underground resources confound state boundaries, visions for sovereignty and narrowly construed plans for state good. This is true for Libya's Great Manmade River Project (GMRP), the largest irrigation project in the world, which draws on the Nubian Sandstone Aquifer to bring water to northern cities along the coast. This withdrawal of water from one territorial unit impacts the availability of water in other places that depend on the Nubian Sandstone Aquifer, whatever their locations within national boundaries. Narrowly construed plans for state good are also challenged by the water that is returning to circulation at faster rates due to the pumping of aquifers. The pumping of fossil water and the return of this water into circulation has been estimated to have contributed one-fourth of the sea level rise around the globe in the 20th century (Wada et al 2010). It's not just an argument between Egypt and Libya over the aquifer, but also of an island nation a continent away slowly being engulfed by the sea—such as the Maldives.

J.A. Allan (2000) argues that noting only the surface water (Nile) and groundwater (aquifers) when assessing the water available in any location misses a larger picture of the water needed to provision life, as it fails to include the soil water, which plays a key role in the production of crops. Herein lies a key to the larger water picture—it's not just about the water that you can see, or drink, it's also about the water it takes to grow the wheat in your bread (staple cereals loom large in the literature), the tomatoes you eat, or to produce the bricks that structure your house and the plastic bag holding

your dish detergent. The concept of virtual water is native to the Middle East, having been developed in response to research on agricultural imports and exports in the area.[31] The basic idea is that all things that are produced have water embedded in the process and the water that was used to grow or manufacture the item should be accounted for, in particular when looking at trade between countries. Water-poor or water-scarce nations like those in the Middle East and North Africa (MENA) would be better off if they were net water importers, the argument goes, and therefore bring in water-intensive items to make up for the lack of water in the soil profiles of the area. Allan suggested that "a quarter of the water needed to feed the Middle East and North Africa's people in the 1990s lies in the soil profiles of temperate humid environments in North America, South America and Europe" (2000: 19). Really, is that surprising when scientific calculations can demonstrate that the Middle East is the first region in the world to run out of water (Allan 1994 quoted in 2000: 9)? Also unsurprising, in Allan's view, is the reluctance of the political leaders of the area to acknowledge these realities (2000:9). The assumptions embedded in these assessments, about populations and production capacity and political entities, is something that I will return to shortly.

The concept of water footprints has re-envisioned the discussion of embedded water to speak more broadly to the various kinds of water usages and their environmental and social costs.[32] Like the carbon footprint on which it is modeled, the water footprint concept attempts to connect dots between all of the ways in which water is used, polluted, or otherwise taken from circulation in order to make anything from an item to a lifestyle possible. Water footprints are calculable at the product, individual, and national level, and

[31] http://www.siwi.org/prizes/stockholmwaterprize/laureates/professor-john-anthony-allan-great-britain/ accessed November 13, 2013

[32] See Hoekstra, Chapagain, Aldaya and Mekonnen 2009

work to shape a worldview where embedded water becomes visible and actionable. For example, once the full impacts of a bottle of water are made clear, the hope is that political and social change will follow. At the heart of these ideas are questions of scale—at what level of remove does it make sense to speak of these trades in embedded water; where, to use the terminology of the embedded water literature, is the problemshed—which has replaced the watershed as a fuller scaleular category of analysis.

The MENA region is generally categorized as water-poor, but there is geographic diversity. Part of the MENA region sits on top of the largest fossil water aquifer in the world (the Nubian Sand Stone aquifer), and it contains some significant rivers (Nile, Euphrates, Tigris, Jordan). Egypt is a net water importer, largely due to the import of wheat from the United States, and despite the sale of such water-heavy crops as tomatoes and watermelons to the European market in search of hard currency to service national debt.[33] The story that needs to be unpacked here is the story of the state as the unit of analysis, where the import and export of water, virtual or otherwise, is marked across state boundaries despite the fact that neither the watershed nor the problemshed fit such scales. The unit of the state does, however, lend itself very neatly to other kinds of calculations, particularly those enabled through the knowledge forms of extractive relationships, from the colonial to the neoliberal. Timothy Mitchell (2002) critiques the expertise and interests as they played out in Egypt in the twentieth century by examining the function of a simplistic and flat image of Egypt in international aid discourses about the "problems of Egypt." Much like we just saw in Allan's calculations about water, these problems are framed as a mismatch between the number of people to be fed and the

[33] Export-oriented agricultural production is motivated in part by the need for hard currency to pay on debts that the Egyptian Government has to international donors, not least of all the US and European nations.

amount of land available to feed them, "The question of Egypt's economic development is almost invariably introduced as a problem of geography versus demography, pictured by describing the narrow valley of the Nile River, surrounded by desert, crowded with rapidly multiplying millions of inhabitants" (Mitchell 2002: 209). By examining what this image compresses and excludes from view, Mitchell is able to show the discourses that enabled particularly damaging economic and environmental policies by USAID, the IMF, the World Bank, and institutions of the Egyptian state.

Taking the language, statistics, and measuring mechanisms of international development as it has been applied in Egypt as the starting point, Mitchell is able to show the miscalculations, exclusions and manipulation of knowledge about agricultural production and demographics in Egypt. In terms of agriculture, production capacity and the allocation of land for different purposes impacts the total food produced. As we will see in detail in Chapter Two, particular regulatory and economic pressures have contributed to the rapid conversion of agricultural land to informal housing on the edges of cities and towns up and down the Nile Valley. Additionally, the diversion of cultivated land from staple agricultural production to expensive luxury products (meat, dairy) for elites and tourists, and land mismanagement also combined to make Egypt dependent on the import of staple foods from the US (2002: 240). Having problematized half of the equation of Egypt's food-to-person imbalance, he next addresses the essential ethnocentrism in the ways in which fertility rates among rural poor in Egypt were understood, highlighting the context of high infant mortality and family-centered care for elderly that helped to structure a preference for larger families.[34] Breaking down the comparative analysis of a World Bank report from 1989, Mitchell questions the choice of

[34] This focus on body counts and acreage yields forestalls an investigation into inherently unequal distribution practices.

the relatively poor and less densely populated countries of Bangladesh and Indonesia as counterpoint countries for Egypt's population density 2002: 2012). Implicit in the logic of selecting those countries, he suggests, is that the comparison heightens the sense that Egypt is in danger. In the language of experts on Egypt, the real problem is not just that there are so many people crowded in such a small amount of land, it's that the growth rate of the population is so high that Egypt cannot meet its development objectives (Ali 2002). There are just too many people, and they keep coming—a topic I will return to later in this chapter in discussions about staffing in the water sector. By closely examining the evidence on Egypt's food/people problem, Mitchell is also challenging the convention of understanding and operating on countries as distinct and internally coherent units by highlighting the mechanisms used to imagine communities in these specific instrumental ways.

Mitchell's (2002) work also takes on the river Nile and many of the iterations of history, technology, force, and fate that help to explain its current form. Egypt has a long history of managing the Nile river, measuring its annual flooding, creating dam works that transported water through series of irrigation canals designed to capitalize on natural forces to serve human demands. Historically, the Nile floods brought with them not just an abundance of water, but also a plentitude of rich alluvial mud, some ten million tons of which were deposited annually on the flood plain, traveling down from the Blue Nile and contributing to the fecundity of the Egyptian Nile Valley (Mitchell 2002: 195). The 20th century began with the building of the Old Aswan dam in 1902, which partially blocked the flow of the Nile and worked in concert with a series of barrages to channel the flow of water into irrigation canals running parallel to the river. A number of these barrages are central to provisioning cities in Egypt with drinking water, including the Fresh Water Canal to Ismailia and al-Mahmoudia Canal to Alexandria. The flooding and

accompanying silt were put to an end by the completion of the Aswan High Dam in 1970, which also created Lake Nasser and thereby displaced the vast majority of the Nubian population.[35] Lake Nasser holds approximately one and a half times the annual flow of the Nile, which then is distributed by the government throughout the year to downstream segments of the river. This change has had significant impacts on the biodiversity of the Nile, as well as water quality, and has furthermore increased processes of coastal erosion along the Mediterranean coast. Currently, agriculture swallows up the vast majority of the water extracted from the Nile in Egypt, at some 85% of the water consumed.[36] There have been a number of large scale projects to manage water for agricultural purposes, and in recent history as part of what might be termed the national pastime of desert land reclamation. In addition to Lake Nasser and the oasis of Fayoum, which is fed by a canal dating back to pharaonic times, the Bahr Yussef, there are a number of other large water diversion projects such as Toshka off of Lake Nasser (Barnes forthcoming) and projects in the Sinai.

MODERN WATER INFRASTRUCTURE

Modern water infrastructure in Egypt follows the changing organizational imperatives of institutional regimes as they shaped the material and social worlds to their own ends, or at least tried to do so. British colonial projects aimed at configuring water infrastructure in ways that further enabled the extraction of resources, such as improvements to the agricultural water systems to enable the production of cotton and sugar, or to facilitate the management of labor, as with the water diversion projects set up to feed Ismailia and Suez City for the workers building and maintaining the Suez canal (Mitchell 2002). Improved water systems in urban centers like Cairo and Alexandria,

[35] See Fernea and Rouchdy 1991; Smith 2006
[36] Jagannathan, N. Vijay, Ahmed Shawky Mohamed, and Alexander Kremer. Eds. 2009

such as the institution of potable water and wastewater piping systems, also functioned to support the colonial government in their seats of power. Water and wastewater infrastructure in Cairo developed as part of colonial processes as cities were connected in other locations.[37] In the couple of decades following the 1952 Egyptian Revolution that ended the Monarchy in Egypt, technological advances in the management of water such as the Aswan High Dam were testaments to the viability and prowess of the new nation state. Around this time international structures organized around the idea of development took shape that were aimed at building the capacity of states characterized as weak to provide these greater goods—roads, schools, potable water and wastewater, etc. The League of Nations—later the United Nations—and the World Bank, the International Monetary Fund, and others arose in the post-war period in large part in response to the humanitarian and financial turmoil of the time (Sellman 2013). It was a moment that expanded the idea of state welfare responsibilities to their own populations, as well as the duties of states as global citizens to ensure the welfare of all people by policing the behavior of other states to their own populations. These institutions were part of larger processes functioning to expand particular types of infrastructure, the aims and mechanics of which changed over time. With the *Infitah*, or open door economic policy, that President Anwar Sadat instituted in the early 1970s, water and other infrastructures were part of the great promise of the budding nation state, development for the good of the population. These were the promises to their populations that the "developing" states

[37] The Sanitary Revolution of the 19th century was implicated in colonial projects to manage populations and maintain the health of colonial authorities. See Warwick Anderson's 2006 *Colonial Pathologies: American Tropical Medicine, Race, and Hygiene in the Philippines* for a latter day example of the relationship between hygiene and colonialism. See Kamran Asdar Ali's 2002 *Planning the Family in Egypt: New Bodies, New Selves*, for a look at national and international discourses about bodily regulation as they play out in Egypt.

were castigated for failing to provide on their own, and needing the financial, technical and managerial assistance from "developed" nations to achieve.

An example of a recent iteration of the development are the United Nations (UN) Millennium Development Goals (MDG), a broad-ranging set of social, political, economic, and environmental objectives adopted in 2000, which include specific targets for the improvement of water and wastewater issues globally.[38] By 2015, the UN and its component and partner entities have aimed to cut in half the number of people who have no access to safe drinking water and basic sanitation services. Measurement in the progress towards these goals falls under the Joint Monitoring Programme (JMP) between the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) on Water Supply and Sanitation. The JMP website describes an improved sanitation situation as one in which there is "hygienic separation of human excreta from human contact."[39] This includes within it flushing or pour-to-flush systems of piped sewage, septic tanks or pit latrines, improved pit latrines with ventilation or pit latrines with slabs, and composting toilets. Despite the relatively low bar set here, this describes the top rung of the JMP's four step Sanitation Ladder, the bottommost rung of which is open defecation in fields, forests, and bodies of water. Potable water similarly has a ladder, where the gradation of quality goes from Surface Water up to Piped Water on Premises (Drinking-water Ladder). Such ladders allow for more accurate estimation and comparison across countries, a sharper edge to the evaluative process. Again the notion of the state is the scale at which such lack is measured, as we saw earlier with the

[38] Other broad topics for the MGDs were elimination of extreme poverty and hunger ,universal primary education, gender equality and empowerment of women, reduction in child morality, improvement of maternal health, combatting HIV/AID, Malaria and other diseases, environmental sustainability, and development of a global partnership for development. http://www.un.org/millenniumgoals Accessed March 8, 2014

[39] http://www.wssinfo.org/introduction/ last accessed March 30, 2014

marking of boundaries, the calculations of water availability, food production and population growth. The state is also a key scale at which the management of water is organized, though it is hardly the only scale in that story. The chapter next turns to the state water sector and reforms that have reshaped its constitutive elements.

WATER SECTOR REFORMS

The Holding Company for Water and Waste Water (HCWW) was created in 2004 by presidential decree 135, and restructured the existing regional water and sanitation companies into subsidiary entities beneath it.[40] Additionally, The Egyptian Water Regulatory Agency (EWRA) was established in 2006, as a technical and financial regulator for the water and wastewater sector. While the mandate of the HCWW was to maintain and operate the water utilities, building the infrastructure itself remained under the auspices of three entities; the Cairo and Alexandria Potable Water Organization (CAPWO), The New Urban Communities Authority for desert satellite cities, and the National Organization for Potable Water and Sanitary Drainage (NOPWASD) for the rest of the country. The aim in the creation of the HCWW was to create a central agency to oversee the operations of the subsidiaries, with responsibility for improving equipment and training staff. According to a HCWW brochure, as of 2010, there were 23 subsidiary companies operating in 25 governorates, serving an estimated 80 million people with potable water. The number of paid accounts is significantly less, with only 10 million subscriptions for potable water and four million for sanitary drainage. The HCWW, with international donor support, has also invested in Geographic Information Systems (GIS) technology, Supervisory Control and Data Acquisition (SCADA) systems for monitoring water plants, and mobile repair units utilizing TV photography to minimize the need for

[40] http://www.hcww.com.eg/en/Content.aspx?ID=1 Last Accessed March 8, 2014

drilling. In addition, water-quality testing laboratories were created in subsidiary companies and a central laboratory at HCWW was established as a secondary line of quality control. Part of the package of development at this stage has been the acquisition and deployment of advanced technology for leak detection in an effort to reduce the roughly 30% of water that "disappears" through network loss.

Water network loss comes either from leaking in pipes or through illegally tapping into the system, as residents of Ezba do. The accuracy of HCWW's water loss estimates is unclear, as systems are lacking that calculate the water produced at treatment stations and what is received by consumers. Theoretically, water loss is calculated by measuring the difference between how much water is produced by a treatment station via a meter at its main output, and how much water is received by customers as registered on their on-site meters (at their homes, stores, factories, etc.). Most of the water purification stations in Egypt do not have a meter at the main output and most homes do not have onsite meters, so calculations are made about how much water was produced based on how many hours the pumps were running and what the capacity of each pumps is, though that doesn't establish a basis for estimating how much was received. Foreshadowing issues to come in Chapter Four, the HWCC has attempted to address deficiencies in water measurement through the manufacture of water meters in Egypt to increase the accountability of water usage, and has initiated systems to automate billing for services to mitigate long standing problems with the accuracy of bills.

According to the water and wastewater sector administrators with whom I spoke, there are two overarching issues still in need of being addressed: inappropriately low tariffs[41] and the contradictory issue of overstaffing while lacking trained personnel. As

[41] Water tariffs encompass the cost of pumping, treating and distributing water, and can be proportional to consumption, rise in cost as consumption increases (IBT), or decrease in cost at consumption increases (DBT).

we saw earlier in the demographic and agricultural domain, the development story of Egypt is one of too many people. During an interview David Osgood, head of the Chemonics International office in Cairo, a development company working under the auspices of USAID, articulated the dual problem perspective well:

> By 2004 these fourteen organizations were still not meeting operating costs, and had additionally accumulated a deficit of about 7.6 billion Egyptian pounds, and debt of 7.3 billion Egyptian pounds. Primarily because nobody was accountable for financial performance and tariffs were low, and, because they reported to the governors, they were overstaffed because they became sort of a place where governors could send people for employment. So those fourteen companies had a combined staff of 74,000. Like a small town. So 2004, huge problem because the Ministry of Finance was holding the bag, because this stuff had to be accounted for, they couldn't just ignore it. It was getting so big that it couldn't be ignored any longer. The stars were aligned and everyone understood that something had to be done and so, we were providing assistance through the USAID project at that particular time and we were able to get presidential decrees issued forming the Holding Company and forming the water sector regulator [EWRA]. And then transferring those fourteen organizations into subsidiaries of the Holding Company.

The fourteen regional water and wastewater companies that he is referring to here were those created subsequent to the 1981 water sector reforms, which themselves had been an attempt to consolidate and improve on a patchwork of projects built with development funds coming in after Sadat's open-door policy was established in the 1970s. Between 1975 and 1989, $1.5 billion in US economic assistance funds were paid to US engineering and construction corporations to build drinking water plants and sewage collection networks in Egypt, which accounted for some 23 percent of the total USAID development (nonmilitary) funds designated to Egypt (Mitchell 2002:238-239). It was spent primarily, though not exclusively, in Cairo and Alexandria, building on the two oldest water companies which had been private entities established in the 19th century and then nationalized in 1954 by President Nasser. Outside of these cities, there was a

mixture of municipal and governorate systems, with potable water and wastewater systems run by separate entities. A key development concern then, as now, was that these entities did not pull in enough rent to pay for their operation costs, much less for capital investment, so the Ministry of Finance subsidized the operating costs while looking elsewhere for infrastructure.

> Osgood: And you will see, except for places—and I'm just going, and I haven't read this year's [report], but I'm just going by-- except for places like Saudi Arabia where they just don't charge people for water, or Kuwait, Cairo is almost as low as it gets in terms of tariffs. And it's just a political, the government just doesn't have the political will to increase because there is a sense here that water is a gift from God and you shouldn't charge them for it. And so, plus there is still sort of remnants here of socialism from the days of Gamal Abdel Nasser, and so people feel the government should take care of this and this is something that government should take care of and I shouldn't have to pay for it. So, you know, they fight those fixed ideas in people's minds.
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> Farmer: Who is fighting those ideas?
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> Osgood: The government.
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> Farmer: The government is working to try to change people's opinions about-
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> Osgood: No, they are not really working, but they are very influenced by that. It's a real irony here, and I suppose that it's in other places too, we don't really have a democratic system here although they have elections. But they pay a lot of attention to what they think the people think, okay? Because there is always the threat of riots here. It doesn't happen very often but every once in a while it happens. They raised the price of bread 20 years ago and it really set off a big problem. They are conscious of those kinds of things.

"Those kinds of things" being resistance by the population in great enough numbers to put the political and economic status quo into question. This is part of the political society in Egypt, using Chatterjee's (2004) terms, a realm within which the potential for extra-state violence makes particular kinds of sense. It is not ballot-box democracy, a hollowed out export at any rate, but the potential for counter violence that

puts the lie of the legitimacy of violence by state security forces on display. As discussed in the introduction, less than a year after this conversation, "those kinds of things" took over Tahrir square for the first of several reversals in the following three years. But during this conversation, that threat was spectral. More immediately of concern were the small ways in which calculations about how far was too far, how much was enough were still the point of discussion. When I asked Mr. Osgood how the tariffs were calculated, he replied:

> It's what people are expected to pay, and at this point it's not really based on anything except somebody's judgment of what people are willing to pay. So the current tariffs, in 2004 there were two organizations that were meeting their costs, and that was the Alexandria water company and the Beheira water company. Due to reforms by the Holding Company two years later there were eight companies meeting their costs. Not because the tariffs were going up, but because they were doing a better job of controlling their costs. There is just so much you can do with costs, plus salaries automatically go up every year. I'm not sure, because we don't work with the Holding Company, I'm not sure what the most recent data shows. But my guess is that most recent data would show that things are getting worse because tariffs aren't changing but costs are going up, costs they just can't do anything about. So what the Holding Company has done is allowing companies to make—the sacred part of the tariff schedule is the domestic. The way that the tariffs are structured is that anyone who consumes less than 10 cubic meters a month pays one amount per cubic meter. Then between 20 and 30, consumption between 20-30 cubic meters a month would be another rate, then above 30 they pay another rate. So for sure, that lowest category is absolutely sacred. Nobody is going to be able to raise that. In most cases the other two classifications are untouchable also, but there have been some situations where those have been raised in a kind of stealth manner. They never announce it. People just get a bill and they say, why is my bill so much higher this month than it was last month?

This is an issue that I will return to in Chapter Four, as the contention over water bills was a theme in many conversations with people in Ezba. They wondered how the bill was calculated and why it varied so greatly from month to month.

> Osgood: But they also have classifications for industrial, commercial concerns, touristic, government and so the companies have latitude to make changes in

> those areas. Unannounced. They never come out—I don't know if you've ever looked at your utility bill in the United States, every once in a while you'll get a schedule of the rates, and if there is an increase you'll get a little announcement with your bill that we got authorization to raise the rates and they'll give the reasons that they've raised the rates and generally they'll be public hearings on those kinds of things and consumers will have a chance to give their side of the story. But that doesn't happen here.

Contention over the cost of state-run water services was something that everyone in an official capacity in the water sector with whom I spoke was concerned about—how can the value of the service itself be impressed on the public? In an interview with a USAID staff person working on the water sector, Atif Abdel Sayed, he returned repeatedly to the comparison between the communication sector and the water sector in people's willingness to pay. Like the water sector, the communication sector had also undergone restructuring to consolidate operations and regulation, and services had dramatically improved. Unlike the communication sector, however, people are reluctant to pay for water. People in Ezba for example, he told me, would willingly pay 100 LE a month for their phone and use it for pleasure—chatting with relatives, buying ringtones, sending ringtones to friends. This is a cost that people willingly pay, but paying for water is a hard sell. The cultural conception of water as a gift from the divine got in the way of being able to "appropriately" charge for water services. "Yes," Mr. Abdel Sayeed said, "God did give you water, but not to your home."

This binary that Mr. Abdel Sayeed set up, that of a frivolous use of money done gladly and stinginess in use of money for a fundamental service misses, I think, the calculation of benefit and responsibility that people have made. Suggesting that people in Ezba saw it as a trade between these two things is doubtful, but it's a fruitful comparison nonetheless. The provision of water is seen by people in Ezba as a responsibility that the state has towards its citizens—if they are recognized as full citizens, they should also be accorded access. Connecting with others via phone is part of maintaining networks of

love, reciprocity, and possibility, as Simone (2004) shows us, that offers hope of help when an emergency surgery looms, or a chance at a job in a far flung city that a friend of a friend has heard about. The time and money spent connecting with others is neither frivolous nor entirely instrumental, but instead fundamental to connected lives. And when there is no money, there is no cell phone credit, and landlines—where they exist—will be shut off for nonpayment. But how is one to go without water when there is no money to pay?

Following the dual problem narrative about the water sector, the other piece of the puzzle is the problem of too many people. According to both Atif Abdel Sayed and David Osgood, getting the staff size of the water companies down to size is a primary objective. It is not, however, an easy one. Mr. Abdel Sayeed said that it was incumbent on the HCWW to reduce staff before it can increase tariffs, so that the costs passed on to the consumer are the optimized operations costs. Mr. Osgood thought that major strides had been made in reducing operating costs everywhere but in staffing patterns, and that this was an entrenched problem:

> The Holding Company has made some good strides on the cost side, in terms of rationalizing costs, achieving better efficiencies. But there is only so far they can go on that. And so they are still plagued with low tariffs and in Egypt, you don't fire people. You can't fire people. So, they occasionally talk about a hiring freeze, but nobody ever sustains a hiring freeze because they can't fire people. When they have a nonperformer, they just shuttle them over to the side and they hire people to do the work that the nonperformers are supposed to be doing. But the nonperformers are still in the company and still get paid. I mean, that's the management methodology here. So, there are still a number of problems.

Keying in on the word nonperformer here, Mr. Osgood is alluding to another part of the problem, that of questions around water quality stemming from lack of technical

expertise and sufficient training among staff of regional water companies and water pumping and purification stations, as well as staff of wastewater treatment stations.

WATER QUALITY

In addition to the sheer number of people on the payroll, there are questions about the capability of those working to meet standards for quality production. One of the issues stemming from the lack of trained staff is water quality, particularly handling of chlorine in the water purification process. This is something that Chemonics is working to address through a certification program.

> Osgood: In the United States you can't manage a treatment plant unless you are certified and certification takes place at the state level. Every state has its own certification. So, we're trying to get a similar type of certification program established here in Egypt.
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> Farmer: To ensure that all sanitation or water—
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> Osgood: Both, are managed by people who meet a set of core competences.
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> Farmer: Has that been a challenge? Has that been something that hasn't been…
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> Osgood: Well, do you mean has it been a challenge getting it done?
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> Farmer: Have the quality of the water and sewage treatment not been up to par? Has there been concern there? Or was it just—
>
> Osgood: Well, yeah, I don't think that it's assumed that a certification program will automatically –it's not the only factor.
>
> Farmer: Right
>
> Osgood: On water quality, there is almost one serious incident a year, in terms of water, where people get sick and die someplace. The last one was, I'm not exactly sure, but just north of Cairo. The year before it was in Dakahlia, in Mansoura, in an area outside of Mansoura, where the sewage somehow managed to contaminate water supplies. So water quality continues to be an issue. You know,

> in the last project when we were working with the Holding Company and working directly with water or the treatment plants, we were doing assessment, there were some reasons to be concerned, in some cases. With the quality of the treatment, but probably overall it's okay, but you will find instances when it's not okay.

Indeed, there are often scandals about the quality of drinking water. In 2010, drinking water from the Abu Ali water purification station in Kafr Magar, a village in the delta governorate of Kafr al-Sheikh, was declared unfit for human consumption (El Sherif 2010). Testing revealed high concentrations of ammonia and there were reports of the spread of red worms and higher-than-normal algae concentrations. Despite long-running complaints by residents of the area about the smell and visible pollution, and reports from health authorities in Dessouq from October – December 2009 that the water was unfit for human consumption, no action was taken until a number of people who had become ill filed a complaint with the Dessouq Public Prosecution. It was a technical team created by the Dessouq Public Prosecution that carried out the water quality tests and made the declaration. Additionally, the Hisham Mubarak Law Center (HMLC) and the Association for Health & Environmental Development (AHED) sent a team to investigate. Shaimaa Ezzat Abdel Salam, a doctor in the village, identified contaminated drinking water as the cause of severe intestinal complaints in young children she had seen. A representative of the AHED accused the Dessouq Public Prosecution of intentional intimidation in their treatment of Dr. Shaimaa Ezzat Abdel Salam; Dr. Salam was later penalized for missing work on the day that she delivered the requested reports about the cases of water-related illness she witnessed.

Nor have the regimes since the January 25 revolution been exempt from water contamination scandals. In August of 2012, some 1,500 residents of the village of Sansaft in the Monufia Governorate became very ill from contaminated drinking water from their home taps (Abdel-Baky 2012). Reportedly, the treatment of the water with chlorine did

not take place and water was simply pumped through the system due to staff turnover at the state water purification station. The state station was one of two water purification stations in Sansaft, the other station being an unlicensed one created as charity by wealthy families in the area. According to some news reports, most people in the village relied primarily on the charity water station because of long-term issues with the quality of water from the state-run operation, but the charity water station closed temporarily for the Eid holiday. The state run station had not conducted the mandatory tests in several years, despite the requirement to test the water every 15 days. After the crisis, water quality testing showed the presence of salmonella and e. coli microbes, along with high concentrations of heavy metals including iron and manganese. Additional coverage of the issue resulted from the response of the villagers, who held the health minister and Governor of Monufia hostage for a brief period in the Menouf city hospital. Then President Mohamed Morsi's administration established a crisis management team to deal with the issue, and the head of the station and some of his aides were held by authorities. President Morsi additionally created a new ministry, the Ministry of Water Supply and Sanitation Facilities as an oversight entity to manage the various entities that comprise the water and wastewater sector in Egypt.

In addition to filtration for floating elements, chlorination is the primary method of treating drinking water for living organisms, and the balance of chemicals is something that people in Ezba often complained about—from the smell and taste of the water, to liver and kidney problems from prolonged consumption of highly chlorinated water. It was a corollary, according to David Osgood, of the poorly trained staff at the water purification stations. During our discussion, Mr. Osgood said:

Osgood: And when you open the tap, you can probably smell the chlorine.

Farmer: Yes

Osgood: So you know that it's there. Years ago, I asked a guy-this was before I was working in water-and I asked him "Is the water safe?" And he said, "Well, they chlorinate it enough that they probably kill everything." Now, these days you are hearing talk about chlorine being a carcinogen, so you are not exactly sure what the situation is. For instance, you know the Britta filters from the United States, so I brought one of those and I—it's a carbon filter and I'm not sure how—I've operated on faith, I guess, that the filter is taking care of any problems.

Farmer: We also use a filter in our house, because the bottled water-

Osgood: Well, we used to drink bottled water all the time, of course, but you never know where the bottled water comes from either, so, I don't know.

Water quality was something that interested everyone with whom I spoke about my research in Ezba, with a lot of conjecture about just what could be found in the water there. Following up on an interest in thinking through the many biological entities that converge around water in urban environments, and more a prosaic interest in being able to practically respond to the difficulties facing contacts in Ezba, I tried to find a way to get water quality testing done on water from faucets and water from standing pools and puddles in the area. My quest was ultimately unsuccessful as my original plan to work through Cairo University fell through and I was not able to make another arrangement in time. The process of trying to test the water, however, was instructive in and of itself. At Cairo University I had a contact through my Fulbright affiliation. Dr. Mubbashir was a considerate and intellectually generous research mentor while I was in the country, and on one of my visits to his office at the University we discussed the possibility of testing.

Farmer: I was also thinking about doing water testing, some on water puddles and—

Dr. Mubbashir: You mean the puddles on the street?

Farmer: Well, yes, because people are always complaining about water making them sick so I wanted to see what was in it—from chlorine to-

Dr. Mubbashir: No, that wouldn't work. You'd have *everything* in there. You'd have algae, small animals, insects, worms, bacteria, fungi, parasites. Look, this is Cairo University, best of the best, and you'd have to send the water to six different departments to get tests done on everything in there. It just wouldn't work. Without even looking I could give you a list of what would be in there. Any standing water will have these things. Here, even in Cairo University, we had a water leak and it left puddles. Within a couple of days, with the water in the sun, the green stuff which we call algae grew on top, then all of the secondary things come in, all of the other stuff eat the algae and live in the puddle. There's no point in testing that water.

A few colleagues entered his office and we were introduced. Dr. Mubbashir appeared to be happy to be able to show off his Fulbright affiliation, and his mentorship of an American doctoral student. As the colleagues were both involved in environmental research, they started asking questions about my project. One asked me how I had chosen Ezba. I told him that I had done research on water elsewhere through a fellowship and had enjoyed it, then looked for a place in Cairo to do similar research. A friend working near Ezba told me about their water problems and sent me articles on the blue jerkin demonstrations, so I had gone there to check it out.

Visiting Colleague: That's very good, so you are the source of your own information on Ezba.

Farmer: Have you been?

Visiting Colleague: Me? No! I've only heard about it!

Farmer: What have you heard?

Visiting Colleague: I've heard that there are lots of, lots of, lots of (making a piano playing gesture with his hands.)

Taking pity on my confused look, Dr. Mubbashir translated the gesture, while copying the motion with his hands, saying that it meant that that there are lots of small animals in Ezba. They all laughed. He told them that he tried on a previous visit to assign

one of his Egyptian graduate students to accompany me to Ezba, chosen as much for his imposing physical stature as his knowledge of environmental science. After the student left his office, the student had called a friend who was a police officer and was advised not to go if he could get out of it. "But," Dr. Mubbashir related, "I told him, she's from America and she's not afraid to go and you as an Egyptian are afraid?" To which his colleague expressed his agreement with the student's reluctance to venture into Ezba, "Yes, as an Egyptian I've heard about it but never been there. I'm surprised that you would go on your own." The topic turned to issues of nutrition, and the gender unequal ways that nutrition is distributed within families. Another colleague told me that he had heard that boys were given more protein and the girls more carbohydrates to make them fat and attractive to future husbands. This, he assured me, was the mother thinking long-term about how to get her daughters to be attractive to potential husbands, while getting the sons to be "strong and do important things." After they left, Dr. Mubbashir and I returned to the idea of testing water in Ezba, discussing the value of knowing more about water collected from kitchen taps. He agreed to provide water collection kits, which I picked up on a later visit, and gave me instructions on how to collect samples. I took the collection bottles to Ezba and asked if contacts in the area were willing to let me test the water from their homes. Um Amina agreed to let me test the water from her kitchen faucet and was very interested in finding out the results as her children were often ill. When I visited to deliver the water testing bottle, she told me, "Oh this will be useful for your research!" For the last couple of weeks, while they were putting in the sewage pipes along Um Nadia street, the water had been turned off to their area for two to four days at

a time, then was turned back on for a day or so. When the water returned, it stunk of sewage for the first half of a day and they had to just let the water faucets run until the water seemed to them to be potable again.

> Um Amina: We were very lucky on this street, as half the street follows [is connected by pipes to] Um Nadia and the other half from up by the church, so only half the street was without water. People who had been cut off just took water from their neighbors. I just connected a hose to the house next to me and was able to get water without a problem. But the people further down the street, it was very hard for them as they had to get jerkins and carry their water. And it lasted for three days!

Despite this conversation, and many others where the scent of sewage was said to be emanating from water taps, at least sometimes, illness wasn't always attributed to water quality problems. I told her that I was being treated for an ameba.

> Um Amina: Like worms?
>
> Farmer: Something like that.
>
> Um Amina: The kids suffer from that. It's so frustrating. I've taken them to be treated, but it just comes back."
>
> Farmer: Could it be from the water?
>
> Um Amina: Yes, it could be from anything. They eat out, whatever. Where did yours come from?
>
> Farmer: I don't know.
>
> Um Amina: Do you eat in restaurants?
>
> Farmer: Not a lot. Do you think that your kids got it from restaurants?
>
> Um Amina: Maybe. When one gets worms they all have it, from washing clothes together, from using the same toilet. It makes me very mad.

Um Amina told me that she had just taken her four children to have complete medical checkups because they seemed so physically weak. The day prior she had asked her daughter to clean the stairs, which she had done lightly, then said that she was really exhausted. The doctor told her that the three younger children had worms. All the kids have to take medicine though, as wisdom is that if one has it they all have it. She showed me the pictures on the box of medicine and they were frightening. Four different kinds of worms were shown on the front cover and they all looked fierce and disturbing, with lots of teeth. Um Amina laughed at my horrified reaction. She'd taken the stuff from a huge bag of pills that she'd gotten for the kids, and then took out liquid vitamins that she had been given to help their health improve. She had to physically force the kids to take the vitamins, running after them and holding their mouths open like they were infants. As they were headed out, they demanded money so that they could buy the omnipresent goodies—ice cream, potato chips, *lib* [melon seeds]. She told them not to buy these things, as they were forbidden by the doctor as being what was giving them worms.

Eldest Daughter: Okay, I'll just buy the white lib, they don't have worms.

Um Amina: No, the doctor said no lib.

Youngest Son: I'm going to get ice cream!

Um Amina: No, don't buy any of it [junk food]!

Youngest Son: I'll just buy chips!

With that, her youngest son took the money that he'd been given for successfully completing his exams and bought a bag of potato chips from a small snack store down the street. Um Amina sent the eldest daughter out to take the chips away from him and give

them back to the store. They kept going back and forth and she really had to argue with the kids to keep them from buying the things that the doctor said would give them worms again. I found it surprising that, in the context of repeated exposure to sewage in tap water, food was identified as the source of contamination. However, pulling apart the strands of causality for illness is not always easy, and there are many vectors for exposure to parasites and diseases, as well as toxins. As is clear from these encounters, the impacts of water systems are felt on bodies that are implicated in multiple other systems in the city, including food preparation and distribution, and medical care.

Through situating the water sector in the context of governance in Egypt, this chapter examined the ways in which water is collected, cleaned, distributed, valued, and managed and the different systems of control and social relations that manage these currents. Understanding the way in which the surface, ground and embedded water are measured and managed in Egypt helps to frame the relationship between water and the construction of the Egyptian state. Following the thread of the literature questioning the composition of the state as such, this chapter examines the scale of the state as it is used in discussions about water and population in Egypt. Chatterjee (1998, 2004), Appadurai (1994, 2002), Ferguson and Gupta (2002) and Trouillot (2001) offer readings of the "state" that focus on the community as a locus for alternative theorizations of life and survival. These theorizations are significant for understanding Ezbet Khairallah as they provide a framework within which to analyze the ways that people survive, the consequential worlds that they construct, in the increasingly dire economic, political and ecological conditions of urban poor neighborhoods of Cairo. Understanding evaluations

of water quality and how these interact with other water systems is an important piece of this puzzle. State or state-like institutions that manage water and wastewater are links in the chain that shape the circumstances within which people create lives, creating vernacular worlds, and connects them to other subjects in their associations throughout the city of Cairo. The next chapter provides a closer look at the history and context of Ezbet Khairallah.

Chapter 2: Locating Ezbet Khairallah

GETTING THERE: STORIES OF ENTRY

Ezbet Khairallah, also known as Ezba, is only a few miles from downtown Cairo as the crow flies. Crows do fly to Ezba, but for human residents and visitors the journey to reach Ezba is a tiresome and difficult one. If you are lucky enough to be coming in a personal car, the easiest way to enter Ezba is via Salah Salem street, a long arterial street running through much of old Cairo. From Salah Salem, you take a smaller street right by the much more well-known area of al-Basateen. On your right you'll pass a small spring-fed lake, an *eyen* that has become so polluted with waste-water runoff that it no longer serves any purpose other than occasionally flooding the adjacent roadway. Ezbet Khairallah is hemmed by old places, by the remnants of the city of Fostat, which the first settlers of the Islamic conquest built, and al-Basateen, which is housing that was built in, on and around the mausoleums of one of the city's graveyards. It is built upwards along a hill whose bedrock is a porous limestone. For many years, the area was used as a dump, evidence of which can be seen as layers of waste that appear as geological strata along the sides of great trenches opened by backhoes to put in sewage pipes.

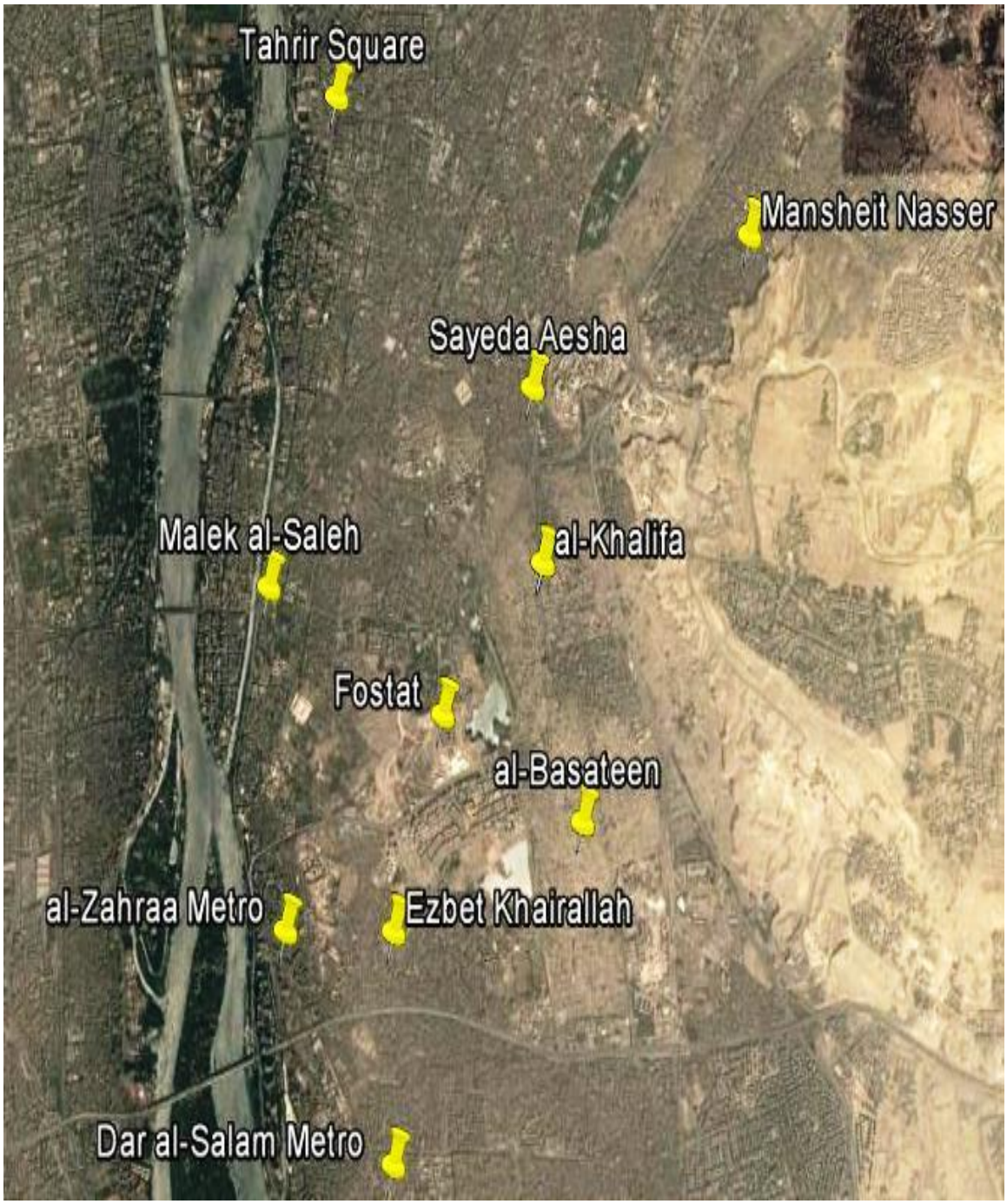

Figure 2: Image of the Cairo, Egypt from Google Earth; locations added by author and are not exact. Image captured on March 29, 2014.

You can also enter Ezba on these roads via a twenty-minute bus ride from the al-Malek al-Saleh metro station. These old white government buses are the only form of official transportation that passes through the area. The first time I rode this bus to Ezba alone, we were stopped by a group of policemen at the *benzima,* a gas station that serves as a major landmark when people give directions to and from Ezba. They came on board and asked who was heading to Ezba, then took a couple of young men off the bus to question them about circulating illegal goods. After about ten minutes, the young men were released and allowed to return to the bus, but without the bags of clothing they had been carrying. Other than the driver, who argued with the police to let the bus proceed without them, no one on the bus said anything. Young men from Ezba are regarded with suspicion not only by the police, but also by residents of the nearby areas of Basateen, Abu Ashraf, and Dar al-Salam, despite their own relative poverty. Part of this story of prejudice is Ezba's history as a squatter settlement and reputation as a refuge for lawlessness, which lingers among those living nearby. More than that, though, moments like these, when representatives of state security institutions engage with people, are tense with potential threat. Speaking up may mean that one becomes a target, and the possible consequences of being noticed could be anything from the confiscation of meager goods obtained for resale in the vast informal sector, to beatings or detention, as security personnel operate largely outside of systems of accountability. Better not to be noticed, if possible, but simply heading to Ezba increased these young men's visibility. Those without the wealth or connections (*wasta*) to provide specialized protection are subject to coercive activities of a variety of state actors. These are not limited to the pantheon of security services in Egypt, but extend into mundane interactions with bill collectors and utility repairmen. Had these young men actually been carrying anything illegal, it is unlikely that they would have been allowed to return to the bus. As the goods

were confiscated, it is more likely that they were simply taken as an added layer of tax on the poor.

Returning to our journey into Ezba, the bus drives by the eyen and prepares to turn right into the main entrance of Ezba, where it passes by a lushly green walled compound that serves as the stables and training yard for the Egyptian Calvary. Turning up this road, the bus rocks and shakes at it bumps its way down a narrow lane, hitting potholes and sliding in the thick pools of sewage fed mud. The destination is a bank of microbuses that lead from Ezba to many places in the city – to Basateen, Sayeda Aesha, Khalifa. The bus now continues its path closer to the rough brick and cement buildings of the settlement. Here, frames of old cars, stripped and abandoned, punctuate burning piles of garbage, shade stray dogs, and offer a perch for a variety of birds. All of these things need explanation, as the birds and garbage and dogs and looming husks of cars have history, reasons for living on the borders of Ezbet Khairallah. But we will leave those stories where they are for now, and return to them when it's time to take a quiet accounting. First, we will continue to map the ingress and egress of Ezba, the winding and bumpy paths that can take you in or take you out, if you have reason to visit.

Once I'd become more familiar with Ezba and after my friends in the area had explained to me that riding four stops from my apartment in Hadayek al-Maadi[42] to al-Malek al-Saleh was inefficient, I came to Ezba from the Dar al-Salam metro station, which is only one stop away from my own stop. From the very busy Dar al-Salam metro stop, in a metro system that serves some four million passengers a day,[43] the next step is to walk down the bustling commercial roads of the Dar El Salam market. Clothing stores,

[42] Hadayek al-Maddi translates at the Gardens of Maadi, a misnomer in this day and age when it has become a densely packed working class neighborhood

[43] http://cairometro.gov.eg/HomePage.aspx. Accessed February 1, 2014

dry goods stores, shops full of accessories, baby clothing, goods for holidays and baby showers crowd the space. Skin-tight sweaters and long *abaya* compete for attention hanging five or more feet above head level, on racks and display mannequins jutting out into the path. In between the stalls, independent vendors with a cart or basket or simply a cardboard box sell everything from jackets to homemade cheese to cut vegetables. For busy working women who are attempting to balance work lives and the responsibilities of home and children, the few extra pounds that you would spend on purchasing your vegetables already cut, peeled, shelled or emptied for stuffing may be worth it, but tight budgets only extend so far. The pace of the market is quiet in the morning as vendors slowly open around 12 or 1pm, busy and full in the evening until late hours. Some mornings, a long line of women with small children from surrounding areas can be seen waiting for their turn at a social security or charity office, chatting and scolding and eating lib. At night, small clusters walk slowly through the lanes to window shop or bargain for new school clothing or items for a trousseau, much to the frustration of the men (and some women) commuting through the area, walking quickly and maneuvering between crates, displays and shoppers, anxious to get somewhere else.

At the end of the shopping lanes are lines of micro buses, small vans which have been modified to fit as many passengers into their cramped confines as possible, with little regard for leg room or ease of access. As much as possible, women sit next to women, men with men, children on laps and grocery bags full of tomatoes or t-shirts at their feet. People push hard to get into the microbus first when it's a busy day, crowding around the door to hop in even as the driver shifts the bus back and forth to park. On slower days or times, one goes to the first microbus in the line and finds the first available seat. Once the microbus is full and gets in motion, people hand their half-pound to whomever in the bus has temporarily assumed the role of bursar, and I keep a sharp eye

out for Abu Ashraf , calling *"ala gamb hina* [on the side here]," to be let down. From then, it's a dangerous hop across al-Fayoumy street to walk the length of the Abu Ashraf market area. Near the end of my fieldwork period, there were mid-sized buses that took off from the inner section of the Abu Ashraf market, past the blockade posed by large areas cordoned off for sewage stations, which passed through Ezba. The busses had stopped entering the area when the sewage system installation began in the lower areas of Ezba. The whole process from metro stop to the underpass below the ring road entering into Ezba could take anywhere between 20 to 40 minutes.

Coming from the metro line, the easiest way by far into and out of Ezba was through the al-Zahraa metro station, only one stop past Dar al-Salam. From this metro station, there were two methods to enter the area, the more comfortable being the shambling hulks of service taxis that seat four passengers, three across the back bench and one in the front passenger seat. Without license plates or other forms of government registration, these services work off the books.

Figure 3: Image of the cars at the top of the hill coming in to Ezbet Khairallah from the Zahraa metro station. Image by author, 2010.

Like Franken cars, they are the remnants of 1950s Fiats with fixes from whatever will work; in many, the ignition is simply two wires to be touched together to start the engine, and doors are held closed by bent pieces of steel rebar. The taxis make it up the steep incline into Ezba *b-l-'afya* [barely/by force], and it is hard to resist the urge to lean forward to help the car climb the hill. The privilege of having a seat and only waiting for three other passengers, however, is worth the one pound price.

The less comfortable option from the al-Zahraa station is via a perch in the open back of pickup trucks, cheaper by half a pound, but it requires a hike from the metro station to the mosque at the bottom of the hill leading into Ezba. In these pickup trucks, wooden benches have been installed along the sides of the bed, and one simply climbs on and hopes for a perch closer to the cabin. When school lets out, children pile several deep onto the back bumper, holding onto the tailgate, benches, or each other for the short, steep ride up the hill.

The many difficulties of entering Ezba demonstrate some of the challenges facing residents of this area. While Ezba is situated relatively close to the center of Cairo, Tahrir Square, it is very cut off from most of the resources connecting the city together as a whole. Infrastructurally and socially, Ezbet Khairallah is marked off from the city and from adjacent neighborhoods. It lacks paved roads, formal transportation and, until recently, a sewage system. The areas around Ezba are also quite poor, but having been around for a longer time, they are more integrated into the network of the city. Reading the physical landscape of the city provides insight into the social histories of Cairenes, relations of power and possibility sedimented into roads that do or don't connect, spaces that are laid out on grid systems or follow other logics of order. A great deal has been written about Cairo and its denizens, investigating how people manage or get by in one of the largest cities in the world.

URBAN DEVELOPMENT IN CAIRO

Cairo is an old and storied city, having first been settled by the Fatimids in 969 AD. What is now considered Greater Cairo has in fact absorbed the earlier capital cities of Memphis, Giza, and Fostat (Abu-Lughod, J. 1971). Fostat is very close to Ezba and the proximity of the two areas has left lasting impressions on both (see Chapter Three on sewage spillage). Much of this vertical and horizontal expansion of the city has been in the form of unplanned areas, *al-manatiq al-gheir mukhattata*, more commonly referred to as *ashwa'iyyat,* slums or informal areas. In terms of urban planning, informal areas are distinguished by building patterns such as "small building footprints, 100 percent plot coverage and little or no allocation for public open space or social facilities" (Sims 2010: 62).

Figure 4: Image of wood recycling workshops in Ezba, with the red brick and cement style of most of the building in the area visible. Image by author, 2010.

There remains a stigma attached to living in locations referred to as *ashway'i* and some locations such as Ezbet Khairallah suffer the infamy of being marked out as particularly dangerous. While attempting to get a monthly metro pass between my home and al-Zahraa, I was informed by the ticket saleswoman that the people of Ezba would kill me. The irony of the *ashway'i* stigma is that a sizable majority of Cairenes actually live in locations that would fall into that category. As of 2000, it was estimated that some sixty two percent of Cairo's population lived in such areas (Sims 2010: 69).

In the 20th century, there was a boom in informal settlement in Cairo, starting after the Second World War when people were attracted from the countryside by the growing industries in the city (Kipper 2006). Formal housing stock was in short supply due to rent controls, and strict regulations on land subdivision and urban development instituted largely in the 1940s (Sims 2010: 46). In that period, the rural migrants largely settled into established neighborhoods in Cairo, and then branched out later to buy plots of land for building once they had amassed sufficient capital. The expansion of informal housing during this time primarily took place on agricultural land around villages located on the outskirts of Cairo (2010). Such land was attractive not only for its proximity to the urban center and lower price, but also because agricultural land in villages near Cairo has been held primarily in small parcels of freehold property, and is easily subdivided into building plots. Lingering impacts of this history can be seen in the conversion of irrigation channels between fields into roads between buildings, as pathways for water in an earlier iteration of land use become pathways for people in informal settlements (Sims 2010:113).

The state undertook a number of projects to create subsidized public housing, primarily for the lower-income classes through the course of the 1950s and 60s, and later added upmarket housing that often was let out to government officials and military

officers (2010: 50-51). Such housing privileges (with access to newer and more luxurious units) are among the perks that the military establishment in Egypt is anxious to maintain in the "post-revolutionary moment" since 2011. The public housing was almost exclusively under rent laws that granted tenure in perpetuity as long was rent was paid (2010).

Later waves of migration, particularly during the 1970 and 80s, continued the expansion of housing on what was agricultural land, despite country-wide legislation aiming to preserve farm land. In addition, this period saw the development of many new areas on what was considered state land, primarily desert land but also some state-claimed agricultural land (Singerman 2009). This coincided with then-President Anwar Sadat's *Infitah*, or open door policy, which reversed earlier moves by President Gamal Abdel Nasser to redistribute land holdings nationally. In the mid-1970s, during the time when President Sadat began a program to expand housing into the desert areas surrounding Cairo, the existing urban poor began to be channeled into new locations. These policies had the effect of breaking up old neighborhoods and creating new spaces of poverty on the outskirts of the city. Farha Ghannam (2002) discusses the discourses of modernity and civilization that were utilized by President Sadat in his attempts to remake the city of Cairo into an urban metropolis that was inviting to tourists and international capital (2002: 2). Through such new spatial divisions, they aimed to revitalize the urban sphere, but also to normalize and discipline the poor into becoming productive members of the nation. However, the real political lessons of such areas were far more about the costs of being recognized by state entities, where being acknowledged means to be constituted as a problem to be solved. The flip side of this cunning of recognition (Povinelli 2002) has been the disconnect between state policies and the interests and actions of bureaucrats interacting with the public; the gap between these two poles is

littered with the petty bribes extorted from the poor to look the other way on illegal but ubiquitous small scale building projects. Such was the case in the wake of two decrees in 1996 which promised harsh punishments through military courts for any new building on agricultural land or urban construction without appropriate permits (Sims 2010: 68). The decrees created a short lull in the expansion of informal areas as fear of substantial repercussions kept people from building. However, the system soon righted itself with higher bribes being requested for the favor of government *ist'bat* [pretending not to know] (2010). The building of informal housing has continued at a rapid pace, propelled in part by the increase in migration to the gulf countries for work in the oil fields and construction which provided the necessary capital for many more lower income Egyptians to build the foundations for multi-story family buildings.

Agnes Deboulet (2009) discusses the relative positioning of the "informal" areas of Dar al-Salam and Establ Antar. Dar al-Salam, Deboulet argues, is infralegal, having been built without proper permits and despite laws prohibiting building on agricultural land, but having been purchased from the landowning farmers and having long been connected to state utility services and populated by lower middle class families. Establ Antar, which is located along the ridge of the Fostat Plateau on which Ezbet Kherallah also sits, is an informal area in more entrenched ways. Having been built on state-owned desert land by people coming largely from poor rural areas in Upper Egypt and primarily employed in the informal sector -- and largely lacking services from the state -- Establ Antar is marked as significantly more dangerous. The distinction between the two areas is clear at the local level, but they are often lumped together when Cairo's informal areas are discussed in national and international circles. This, Doboulet argues, is a function of the metanarrative of informality and urban poverty that allows various agencies of the

Egyptian state to "see without seeing"[44] these areas, lumping them together as problems to be solved, but problems created by and comprised of social disorder. In this way, informality remains the anomaly, the exemption, rather than a reflection of inherent inequalities built into the urban structure, and a truer picture of what life is like for a majority of Cairenes.

Since the 1990s, development in the "formal" housing section has been primarily intended for wealthier segments of the population, with significant government investment and subsidization of infrastructure for expansion into the desert. In contrast, relatively little government attention was paid to the significant needs of areas built informally or the outdated and insufficient infrastructure in preexisting areas of Cairo (Davis 2006: 85). Additionally, land speculation and real-estate development took up pride of place in economic schemes around the nation as the result of increasingly "liberalized" economic policy during the latter part of President Hosni Mubarak's term in office.

Figure 5: AS&P – Albert Speer & Partner GmbH Architects: Open space planning for the central spine and CBD, 6th of October City, Cairo, Egypt, 2009 - 2011

[44] To "see without seeing" is a term that one of my interviewees used to describe how the governorate has dealt with areas like Ezbet Khairallah, as I detail in Chapter Four.

SITUATING EZBET KHAIRALLAH

The neighborhood of Ezbet Khairallah is situated on 700 *feddans* (roughly equivalent to 700 acres) south east of downtown Cairo. The Cairo Ring Road, which was constructed between 1985 and 2001, divides Ezba from Abu Ashraf. The part of the ring road that passes by Ezba was constructed in the last phase of the ring road project due in part to conflicts over the possible desecration of Jewish graves in the Basateen graveyard.[45] Cutting the Ring Road through areas such as Ezba and Basateen had the unintended consequence of making the vast areas of informal housing in Cairo visible to the driving public in new ways. The location, originally 800 *feddans,* was set aside by the Egyptian government for the Maadi Corporation to build a modern, planned suburb. However, before the Maadi corporation could begin building on the site, the Ministry of Antiquities stepped in to preserve the artifacts believed to be buried there. While these two titans battled it out, migrants from Upper Egypt or from older areas of the city such as Bulaq, al-Sayeda Zainab, or Bab El Shaeria began to build homes on the land, primarily mud and rock structures. The land itself was parceled out by what both current residents and government officials refer to as gangs. These gangs carved out sections of the area and sold plots in a somewhat haphazard way. According to many of the older residents in the area with whom I spoke, it was up to the individual then to ensure that their claim to that land "stuck." Hajja Mona, who sells vegetables in a self-styled kiosk at the entrance to the tunnel under the ring road, has lived in Ezba for roughly thirty years. In the beginning, she said, an elderly member of the family would stay at the house over the course of the week while the adult children stayed closer to their places of work. On

[45] Kline, A. "Environmental Geotechnics in Israel- Overview and Case Studies" in Contaminated and Derelict Land: The Proceedings of GREEN 2 : the Second International Symposium on Geotechnics Related to the Environment Held in Kraków, Poland, September 1998

Fridays, the children would come and relieve them of their duty, and they went to whatever home they had in Cairo to take a shower and recuperate.

Because Ezbet Khairallah is considered an informal settlement, it spent several decades without utility services, such as potable water, waste-water disposal, or electricity from the state. In the absence of these services, networks of informal distribution of potable water and illegal connection of electrical cables to adjoining neighborhoods and state power lines were established. In the late 1980s and 1990s, state and international fears about the rise of militant Islamic ideologies, supposedly centered in informal areas, prompted an expansion of a variety of services. Chief among them was the construction of police stations, but other projects were also initiated such as bringing potable water to improve the living conditions in these areas (Sims 2010: 68).

The next chapter expands on the question of utility establishment by examining the history of water provision in Cairo, in particular to areas such as Ezba. According to an interview with a contact in the ministry of antiquities, the Egyptian state intends to formally recognize the area by assessing the value of property and offering local residents the option to purchase the title to their land and buildings. According to this source, an application for the sale of this property has been submitted to the antiquities department for a review of the historical significance of the land. However, as with many bureaucratic operations in Egypt, the application has been pending for a number of years and is expected to take quite a bit more time.

PLANS FOR THE FUTURE

Looking towards the future circa 2010, the Egyptian state had revised its plans for informal areas, and the first thing to change was the taxonomy. First, areas were classified as unplanned or unsafe. The term unplanned areas replaced *ashwa'iyyat, or*

random areas. Unsafe is a distinction within unplanned areas that specifies a level of danger to the occupants. Within the unsafe category, there are three degrees of seriousness. The first degree of seriousness meant that an area poses immediate danger to the occupants, who must be moved straightaway.[46] The cost for these relocations comes out of the national budget. The second and third degree of unsafe involve unhealthy situations or areas facing some kind of specific threat such as industrial pollution, or exposed high voltage power lines. The fourth degree is back to unplanned, where the major obstacle is that occupants lack tenancy, but tenancy is a broad term.

This new schema was explained to me by Dr. Faramwy, the head of the Informal Settlements Development Fund (ISDF). I met with him in the Fund office, which is right across from the college of medicine for al-Azhar University. The building was unmarked and had a guard at the gate. The guard asked me where I was going and let me in to call up at the front desk when I said that I wanted to talk to the ISDF.[47] The guy at the front desk called up for Nahla, the woman I'd spoken to on the phone to make the appointment. She had me come on up, but one of the guys from downstairs escorted me up. I got the feeling that it was pretty unusual for them to have guests. The building was pleasant, but not sumptuous. They are located on the fourth floor, and the reception area was nice but nothing exceptional. The director's office, however, was very large and all lined in wood and exactly what you would expect from the head of what is essentially a bank. Dr. Faramwy is tall, with grey hair and warm eyes. He seemed relatively friendly and sometimes quite amused while we were talking. He appeared to be quite familiar with the informal areas that are subject of the Fund's work. He knew the geography of

[46] The demolitions along Establ Antar on the north west ridge of Ezba above Zahraa were made under the authority of this classification

[47] The Informal Settlement Development Funds (ISDF) was created in after the Duweiqa incident in 2008 by presidential decree 305, with the aim of financing, coordinating and monitoring improvements to unplanned areas.

Ezba and could describe the sites where people had been moved in Establ Antar and the ridge area.

Figure 6: A view down from the Cliffside where houses had recently been demolished. Image by author, 2010.

The two new designations of areas in Egypt that used to be *ashwa'iyyat* came almost exactly from the UN Habitat document, which has very specific definitions of what fits each category. Unplanned areas are not of immediate concern. The people living there are, relatively speaking, okay, having the necessary services, ect. The Fund is most concerned with the unsafe areas, locations that need immediate action. Places like that are already being addressed, with the people being moved to the Nahda area near Cairo University, Sixth of October city on the very Western edge of the Cairo, or even the buildings of Suzanne Mubarak housing projects, some of which were built in Duweiqa. I asked if that was the situation in Ezba, as some people had been removed from Establ

Antar. He replied that most of Ezba was unplanned but not necessarily unsafe. The areas has, for example, improved sanitation.

The UN Millennium Development Goals (MDG) specifies an area of unimproved sanitation as one in which the removal of waste is done by hand and there is no way to know all of the users of a bathroom. This he contrasted with the example of an airplane bathroom, where if someone was found to have H1N1 you could track down all of the people who had used the bathroom because they are all registered as passengers of the plane. In Ezba, they make their own trenches and have a vehicle come and remove the waste. They don't remove the waste by hand and they have private toilets. For example, UNICEF would say that 90% of Egypt has "improved sanitation." The Egyptian government, on the other hand, would say that maybe 4 % of villages have improved sanitation because Egyptian government standards mean sewage systems and larger networks to move liquid waste. They're talking about a much more expensive version of improved sanitation.

The Fund is designed so that projects begin with a request from the Governor of a district, who would present the Fund with a detailed action plan that meets the requirements that the Fund sets out. Those requirements were, in turn, created in reference to the UN habitat documents on slum upgrading. The local actors have to have all of the legal documentation done, all of the plans in place and a fully acceptable Action Plan in hand. The Fund would then loan the governorate the money, which the governorate would use to "upgrade" the area, and then pay back the money. According to Dr. Faramwy, part of the innovation of the Fund in Egypt is that the plan is based on local, decentralized planning.[48] The goal is to have 60 programs ongoing simultaneously.

[48] Pushing decentralized planning is also part of the project of a number of the international organizations work in Egypt, as the firm hold of the central government on authority to make such changes has been seen as a block to development in the country.

As of mid-2010, they had 30 action plans on track, 14 approved for funding and 5 projects operational, meaning that the money has been sent to the governorates. Attempting to get a better understanding of the function of the fund, I asked Dr. Faramwy:

> Farmer: Does the Fund do the actual implementation of these projects?
>
> Dr. Faramwy: No, the Fund loans the money to the local government and it's implemented by them.
>
> Farmer: Is Ezba one of those which has started?
>
> Dr. Faramwy: No, the removal that was done in Establ Antar was done by the government and it was a first degree of seriousness. The money for that comes from the National Budget. There are other projects in Qena and Kafr al-Sheikh. Cairo so far has preferred to do just the emergency moving. But we are encouraging them to start phase two.

The whole project is set up on a cost recovery basis, or as Dr. Faramwy put it, land-based finance.[49] The idea is that the land belongs to the government anyway, but they can't access it because they can't move people who have built housing on it without giving them somewhere else to live. So the Fund told the government that they should take the land on which people have built one or two story homes, strip it and build a five- or six-story building of apartments on half of the land. Take the other half and sell it. Then use the money from the valuable land that was recovered and pay back the loan for building the apartment building. The excess from the sale of this land would then go to cover the expenses of the removing areas that were of the first degree of seriousness, and for the social programs that are built in to the project.

[49] Landbased finance is a policy in favor with organizations like the World Bank and International Monetary Fund (IMF) as it provides an alternative way to fund necessary infrastructure building in developing countries that isn't based on debt. Proponents argue that it encourages efficiency in urban land markets (Peterson, G. 2008). One could also argue that it opens up vulnerable areas in the urban Global South to more direct appropriation by moneyed interests.

Farmer: How would it be sold?

Dr. Faramwy: It would be sold commercially at auction.

Farmer: Would the Fund do that?

Dr. Faramwy: No, it would be done by the local government. They will decide how to go about selling that land. But they will want to sell it to the highest bidder so that they can pay back the loan. And the land is valuable. See, there has to be a way for the program to pay its own costs.

Farmer: Is it literally the same land? So, if one feddan was recovered, half would be sold?

Dr. Faramwy: Yes, say you recovered ten feddan. You would build an apartment building on five feddan and sell the rest.

In the package for the development of the area is the whole network of water, sanitation, electricity, etc. Also included are monies for social development. The Fund provides money for Women's Health, Youth Employment, Adult Literacy, and National ID cards. This is paid for by the land sale.

Farmer: Do the houses belong to the people of the area?

Dr. Faramwy: No, they are rented apartments.

Farmer: Will the same people be moved back in who were living there before?

Dr. Faramwy: That's all up to the local governments. The process is local and decentralized. Local governments get together with their stake holders, NGOs, local representatives, and decide what's important to them. The General Organization for Physical Planning (GOPP) prepares strategic plans in cooperation with the local governments. The way it used to work was that the "Priority for Cairo" would pay 15,000 to 25,000 LE of the cost of building an apartment that maybe cost 75,000 LE. The local government would pay the rest. Then, if the tenants didn't pay their rents, it became a drain on the revenue of the local government.

Farmer: So, how did the Fund get started? Who had the idea for it?

Dr. Faramwy: Well, it started with Duweiqa. You've heard about the slide there?[50]

Farmer: Yes.

Dr. Faramwy: One week after that, the government had a meeting about *ashwa'iyyat* with the Prime Minister, the Minister of Local Development, The Minister of Finance, and the Minister of Housing and Urban Development [among others]. They asked me to present solutions, as I was the UN Habitat Officer. I made this plan based on the UN rules for slum improvement,[51] with slight modification, with some issues switched around. They accepted it and we are now in the first two year pilot stage of the project. What happened in Duweiqa is the fault of many entities. There were many NGOs and there were organizations and so forth in Duweiqa and none of them did anything about the situation there. They all knew how serious it was and they knew the UN rules. Why didn't anyone red flag this area? [making the gesture of raising a flag and waiving it].

Farmer: Was there a mechanism for them to do that? Who would they have complained to?

Dr. Faramwy: They just needed to bring it up and make it happen. We don't need action plans that take three months to create, to deal with cases like that. They need to be handled immediately. There is plenty of guilt to share around. Donors like to upgrade areas that are okay, they like capacity building, things like that. These are not as expensive. But now we are working with capital investment money.

Farmer: They don't like working in *ashwa'iyyat*?

Dr. Faramwy: I don't like the word *ashwa'iyyat*. It denotes a past situation, in policy, date, everything. I know if someone comes in using that word that they are from the old project.

From 1994-2004 there was a project that was called the Development of Informal Areas. It was under the Ministry of Local Development. It provided infrastructure like water, roads, sanitation, electricity. In 2004 it moved from the Ministry of Local

[50] In 2008 there was a rockslide in the Duweiqa area of Mansheit Nasser, which killed 119 people. See Chapter Three for further details on the event.

[51] http://ww2.unhabitat.org/programmes/guo/documents/mdgtarget11.pdf Accessed March 9, 2014

Development to the Ministry of Housing and Urban Development. The Ministry of Housing was supposed to review the report and the project that had been completed and decide where to go from there. They choose to focus on land ownership and infrastructure. In many cases the plans for improvement were not implemented, for different reasons. That was the situation from 2004 until September 2008, when Duweiqa happened. The other projects didn't stop, they are still working on some of the same projects. The shift has been to move from infrastructure to building houses. The projects concentrated on improving unplanned (but not necessarily unsafe) areas by default because they needed to have a legal document, the detailed plan, which they couldn't get in *ashwa'iyyat.* So *ashwa'iyyat* were left alone.[52]

> Farmer: So What is happening in Ezba, then?
>
> Dr. Faramwy: In Ezba, the national Authority for Sanitation and a Germany Company are working on putting in the sewage system in the unplanned areas. The people living on the edge of the cliff and in Establ Antar are being moved [he got up and found a map of Ezba and showed the red lines where the 1st degree of danger was where people had to be moved, and how all else was just an unplanned area].
>
> Farmer: But I thought that the fourth level was where the residents didn't have tenure? Ezba residents don't have tenure.
>
> Dr. Faramwy: Well, the government would have to either remove them into new housing or offer them a way to get title.
>
> Farmer: Is there a mechanism to get the local government to deal with the tenure issues in Ezba?

[52] A refrain that echoes of the state "seeing without seeing" areas such as Ezba, places built on state land without title to the land that purchase of agricultural plots has provided other technically informal areas means that services went to these latter areas first, as the necessary "paper-life" of places like Ezba couldn't be established.

> Dr. Faramwy: No, we don't need a mechanism. We just need to tell them to do one or the other. But that comes lower on our list of priorities. We have a clear hierarchy of urgency.

A clear hierarchy of urgency that puts potential rockslides and public opinion at center stage—yes, the Duweiqa rock slide killed 119 people, but, according to people in Ezba with whom I spoke, the people in Establ Antar whose homes were bulldozed were given only a few hours' notice by authorities that their houses would be razed. They were provided with alternative housing at the very outskirts of the city, away from their networks of kin and connections. On my most recent trip back to Ezba in December 2013, the homes along Establ Antar had been rebuilt, although it is not clear if they were rebuilt by their original inhabitants.

ONE LAST STORY OF ARRIVAL

It was through my first attempt to ride the fifty-piaster pickup trucks from the al-Zahraa metro station to Ezba that I met Um Wasam and Um Kareem, who were taking their children to visit Fostat Park.[53] We became close friends and eight months later, I returned with them to the same park that they had been visiting when we first met. Our journey into Ezba, however, was markedly different. Having spent the afternoon and evening in the park, we began our return around 8:30pm by walking approximately half a mile from the park to the nearest intersection. We waited for about 45 minutes there, looking for a bus or microbus headed to Ezba. We finally found a bus headed there but it was jammed so full that there was no way we could fit three adults and eight small children into it. Feeling responsible for returning them safely as this visit to the park had

[53] I had seen the open backed trucks transporting people into and out of Ezba, and had come to the area that I had seen people being loaded. I didn't know how much the truck would cost, or what the unspoken rules were for navigating a seat. Um Wasam and Um Kareem took pity on the newcomer, told me that the cost was half a LE for adults and steered me towards the front of the pickup bed closest to the cabin. We chatted during the ride down to Zahraa and made plans to meet up the next week.

been my idea, I started flagging down taxis. They all refused to go to Ezba. "Ezba? No, no." As time wore on, I began offering the inappropriately high fare of LE15, but they refused altogether. Finally, a driver in one of the new-style white-metered taxis stopped who didn't know where Ezba was. I told him it was near al-Basateen and that we knew the road back, thinking that Um Wasam or Um Kareem would know, and told him I'd pay 15LE. In a moment reminiscent of a circus act, we then began to pile into the car. I sat in front with one child and all of the bags, and they sat in the back with the remaining seven children. At this point, the driver started getting upset, asking me how many people there were with me. When we finally got settled in, he said, "What, no one else? Fine, good. We aren't missing anyone."

It turned out, however, that Um Wasam and Um Kareem didn't know how to get back, having never come in a private car or taxi before. However, I remembered the way from our trip out via microbus and from previous trips from Malek al-Salah. I told him to take the left beside the big mosque, which we did, then to go straight and we'd take a right in a little bit.

Driver: No, left.

Farmer: No, left is al-Basateen, which I'd mentioned as being next to Ezba, but we want to go right.

Driver: No, left.

Farmer: No, right. See all of those lights on the right hand side? Those are Ezba. He gave me a considering look, and continued on the road.

Driver: So, how long have you been here?

Farmer: Where, Egypt? About a year.

Driver: Where are you from? Lebanon? Sham?

Farmer: *Yani* [a non-response]

Driver: How do you like Egypt?

Farmer: I love the people. And these two ladies are two of the best mothers in the world.

Driver: And you've never met them before in your life, right?

Farmer: No, how can you say that?

Driver: You met them five minutes ago.

Farmer: Why would I go to Ezba with them if I'd just met them?

Driver: Don't you live there?

Um Wasam (from the back seat): No, she lives in Hadayek al-Maadi

Driver: So you don't live in Ezba, but you know how to get there and they don't?

We had reached our turn, so I told him to take a right after the military base and down the road to Ezba.

Driver: This road is closed, look at this road. Is it even a road?

Farmer: Yes, this is how we came down, we left from this road. It's open.

Driver: All of this for 15LE? I'm going to have to pay 10LE to wash the car after this. Isn't that right? Won't I have to pay that much?

Farmer: I have no idea how much it costs to wash a car.

Driver: What even brought you here?!

Farmer: I have friends here.

Driver: Ah, but what brought you to visit this place in the first place?

Farmer: Ezba is nice and is getting nicer as they put in a sewage system.

Driver: But this place—

I cut him off because I could tell that insults to Ezba were coming, and to the people who live there, and I was embarrassed for him to say those sorts of things in front of Um Wasam and Um Kareem.

Farmer: Ezba is a decent place and the people here are *ashen nas* [the best people] In response, all of the adults in the car began laughing.

Driver: *Ashen nas*?

Um Wasam: And the best cars are the cars of Ezba!

Um Kareem: And the best roads, the roads of Ezba!

Farmer: Why are you laughing? I don't understand.

Um Kareem: *Malesh, malesh* [never mind]

But the absurdity of the moment was clear to them. As we drove past the guard at the gate to the cavalry station, his face mirrored his surprise to see one of the new-style white taxis drive into Ezba. Um Kareem kept pointing to the people who were laughing and pointing at us, enjoying the strangeness of the moment.

We made it most of the way up the hill on al-Negah Street, then got trapped by a truck of pallet wood coming down in a too narrow street. We decided to get out and walk the rest of the way. Um Wasam and Um Kareem insisted that I put down the child I was holding, as she'd woken up from sleep, and make her walk herself. They tried to convince me to stay the night at their apartment. I told them that my husband insisted that I return home and they politely accepted my lie, a common moment of *ist'bat*. They stood and waited with me for one of the service cars going down to al-Zahraa and I literally had to hold on to the door as the car backed up and turned around to keep my place. I'd wanted to let Um Kareem and Um Wasam go home to their apartments rather

than wait with me, but they wouldn't go until I got into the car. The long journey into and out of Ezba over, I finally made it home to Hadayek Al Maadi around 12:30am.

Figure 7: A view from an Ezba rooftop of the Cairo Ring Road and the Moquattam Hill in the background. Image by author, 2010.

Traveling in and out of Ezbet Khairallah, in microbuses, taxis, and on foot, serves to make clear the complicated position of this location as one that is and is not tied into the urban fabric of Cairo. People who live and work in Ezba provide furniture building, wood recycling, marble processing and many other services for those living in other areas of the city. Things that make it in and make it out of Ezba are connected in looping networks of obligation and possibility with people in neighboring areas and in Upper Egypt, connecting families and contacts in chains that people attempt to use for survival

and prospering. Yet this place is also distinct, and bodies moving into and out of it marked, as dangerous and full of potentially unmanageable potential. One “item” moving into and out of Ezba that makes this ambiguous position particularly apparent is sewage. The next chapter will take a closer look at the role that sewage has played in shaping and typifying Ezbet Khairallah.

Chapter 3: Sewage in the City

Figure 8: View of Ezbet Khairallah from below, showing the limestone foundation of the area. Image by author, 2010.

It was evening when we got off at the Dar al-Salam metro station. This would be my first visit to Ezbet Khairallah, the site of my research. I had waited all day for my escort, a young male family member, to have the time to take me. I was told that a woman does not visit a place filled with such misery and danger alone. At the urging of my family I agreed, at least for the first visit.

Walking in the direction of the main road to find a micro bus, my companion stepped in a puddle of standing water. He stopped cold, raised his foot and shook it sharply, then headed in the direction of the nearest pharmacy. “We need some rubbing alcohol,” he said. I replied, “I have a tissue. Would that work?”

"No, I need to clean it with alcohol. Who knows what's in that puddle? Maybe swine flu."

Inside the nearest pharmacy my companion cleaned his foot and sandal with disinfectant, then asked for directions to Ezba. Surprised, the pharmacist asked, "Why would you want to go there?"

> Farmer: I've heard a lot about the water issues in that area and wanted to see it.
>
> Pharmacist: You don't want to go to Ezba, it's filthy. There is garbage piled up higher than your head. The people are all covered in filth from head to toe.
>
> Farmer: Have you ever been to Ezba?
>
> Pharmacist: No, why would I go there? They are all thieves and drug addicts and prostitutes. People there have scars across their cheeks [he gestured with his thumb from ear to mouth] from the knife fights. The streets are covered in sewage. Ezba is not a place to visit.

This encounter encompasses much of what is compelling about wastewater in Ezbet Khairallah: it is a product and productive of certain geographies of difference, colonial legacies and neoliberal agendas mapped out in space and on people's bodies. It is a marker of this place and its inhabitants as deficient and dangerous, as needing management and sanitization, not just sanitation, in order to protect the rest of the population from disease, rock slides, theft and prostitution. It is a legacy of the modernist dual symbolic of the city as both citizen maker and source of pestilence, and a location intimately involved in the flows and frictions of capital in this structurally adjusting state. Sewage in this location creates a series of manifold challenges: sewage in and from Ezba must be managed because it presents a danger to public health; because it endangers nearby tourist sites and the money that they represent; and because it would pose a threat to Egypt's international reputation if there should be a repeat of the Duweiqa rock slide disaster of 2008. In response these multiple pressures, a sewage system was approved and

began to be installed in 2009. This provides a claim for residents in the process of legal recognition and increases the value of land, while at the same time creating new sets of stratifications. The increased value of land benefits land owners there, but drives up rents for those newly arrived from the countryside looking to establish a foothold in the city.[54] Certain areas that have a history of neglect from ministries in the Egyptian government have begun to be monitored and measured and in certain cases dismembered, as when houses along cliff sides weakened by sewage were bulldozed. Because sewage isn't inert. It is socially, physically and affectively operative. Sewage seeps down into the water table, eats away at the limestone foundations on which the area rests, threatens to dissolve artifacts being preserved for posterity and tourism dollars in Fostat, clings to shoes and marks bodies as poor wherever they move through the city, brings intestinal worms and nurtures mosquitoes and, who knows, maybe contains swine flu.

The garbage, the sewage, the scarred and dirty bodies are common themes that swirl around Ezbet Khairallah, echoing as a refrain in newspapers, popular media, and in conversations with people living in surrounding neighborhoods. Having served as a wilderness retreat, garbage dump and cemetery at various times over the last century, and having become a densely populated squatter settlement over the course of the last forty years, Ezba is the kind of place you don't go unless you must. On my first visit to Ezba during daylight, garbage and sewage did indeed greet me. The main road coming in by Basateen was a veritable lake of sewage-fed mud; thick, dark and pungent. There is no asphalt, and the mud has hardened into tight waves in some places while in others it creates doorstep-to-doorstep sinkholes of indeterminate depth.

[54] It also prices newly married couples out of the market for housing in the area.

Built along the slope of a limestone ridge, shit literally rolls downhill from burst pipes, overflowing septic tanks and water discarded from buckets at doorsteps, following oddly angled, narrow streets to the bottom where the microbuses link Ezbet Khairallah to Fostat, al-Malek al-Saleh, Sayeda Aesha, and Khalifa. There are garbage piles along each of the major entrances to Ezba, heaps of plastic bags and organic waste playing host to rodents, semi-feral cats and dogs, and occasional herds of grazing sheep and goats.[55]

Figure 9: A small heard of sheep and goats were brought to feed on the collected garbage under the Ring Road overpass at the entrance to Ezbet Khairallah from Abu Ashraf. Image by author, 2010.

[55] For most of the 20th century, a community of people known as the zabbalin, primarily Coptic Christians, collected and recycled most of Cairo's garbage. The organic was used to feed their pigs. In 2003, municipal authorities awarded contracts to international corporations for trash collection, impeding but not stopping the zabbaleen's work in collecting trash around the city (in many cases the zabbaleen were subcontracted by the multinationals to do garbage collection, but there were conflicts over the ownership of the material collected). Additionally, in 2009, the municipality killed off most of the pigs within the city limits as a precaution given the global H1N1 scare, known widely as the swine flu epidemic. Without pigs to feed, much of the organic waste of the city remained uncollected.

What this refrain of Ezba-as-zone-of-exception fails to account for, however, is the economic vitality of this place, the upward trajectory of gaining ground in services and recognition from the state, the ongoing implementation of a state-run sewage system that dots the streets with the gaping maws of sewage pipe trenches dug by backhoes or by hand. In some senses, Ezbet Khairallah is on its way up, in a tenuous and hopeful stage of upward mobility, provoking hope for a better future, as well as suspicions about the real goals of these improvements and anxieties about what all of this will mean to current residents.

This chapter will engage with a series of moments in which sewage comes to the forefront of consciousness, both public and personal. In the first section, I look at the Duweiqa Rock slide that happened in 2008 that was blamed on sewage from informal housing in the area, but whose story is much more complicated. The rockslide in Duweiqa was a moment that altered the ways in which various entities in the state engage with informal areas, leading to the creation of the Informal Settlement Development Facility (ISDF), which I will also address. Next, the chapter turns to the daily impact of sewage on the lives of residents, looking at the bodily and social implications of being unable to escape waste. My first meeting with a longtime contact in Ezba, Asma, was an introduction to some of the refrains about sewage in Ezba; bodies that are remade by their engagement with the systems of water and waste management that make life possible, and the sensitivity to the messages of exclusion and neglect that the absence of state services conveys. Asma's story also gives a glimpse at the gendered labor involved in managing the patchwork of services that people use to meet their needs, as Asma carries the burden of her house on her head. Providing an overview of the physical system of septic tanks as they have operated in Ezba, the chapter looks at the material and social networks that have been established to mitigate sewage overflow.

This includes a telling example, the story of an engagement party marred by an unruly septic tank.

Marking a shift in material systems, the chapter next turns to the changes surrounding the implementation of the new sewage system. The improvement to the material circumstances in Ezba that the sewage system installation represented were hard fought for, won both by happenstance and activism, and met by residents with expectation and anxiety. Recounting a conversation I had with Ezba residents while watching the progress of installation on the street below, the anxiety of residents about what improvements may mean for residents comes to the fore. Maybe Ezba will be a dream place to live, some hope, relatively close to downtown and with easy access to transportation routes. But, if Ezba becomes a dream place to live, will the people who live in Ezba still be around to enjoy the benefits? It's a question that people pondered. Following up on changes in the wake of the implementation of the state system, the chapter looks at what happened to one septic tank when it was no longer needed; what happens to unnecessary spaces? Engaging with encounters with sewage brings with it the sensory, smell in particular, which I will investigate as it sends messages of value about people and places. I will additionally look at the sense of smell and the things which emit scent as part of the larger story of infrastructure in cities and all of the entities that it makes possible. And finally, the chapter turns to the arrangement of space within a home around competing needs for cleanliness and management of waste, reading the bathroom as a particularly fraught place in an Ezba apartment.

THE DUWEIQA ROCK SLIDE

As mentioned in the last chapter, the kinds of risk and uncertainty associated with Ezba crystallized in the fallout over the Duweiqa rock side disaster of September 2008, in

which 119 people were killed and many more wounded by the collapse of 18,000 tons of rock from a cliff side onto a neighboring slum below in the Mansheit Nasser.[56]

Figure 10: Image of the Duweiqa rock slide in Amnesty International's Report, see footnote 56 for citation.

In the immediate aftermath, roughly a thousand buildings in the area were destroyed and people forcibly relocated, some to government-provided housing. Sewage was a central part of the story of the Duweiqa rock slide, as overflowing septic tanks from informal housing on the hill caused layers of clay to expand and put pressure on the limestone layers that comprise the foundation of the hill.[57] Residents had been warning the Ministry of Housing and local elected officials about the danger posed by rocks that hung perilously over their homes, but received no reply. But this is only one piece of the puzzle, one that received a great deal more attention in the national and international

[56] "Buried Alive: Trapped by poverty and neglect in Cairo's informal settlements." Amnesty International, November 2009.
[57] ibid: 16

press. Another piece of the puzzle was the construction of luxury housing on the top of Moquattam plateau, the Uptown Cairo project by Emaar Egypt, a subsidiary of UAE-based Emaar Properties. The use of extensive amounts of water to prepare land for building, and for use as water features in landscaping and golf courses, added additional pressure to the already-eroded limestone foundation.[58] When the rockslide took place, problems caused by the slow and incoherent response by official rescue workers were compounded by refusal of the police and military to let in voluntary assistance from other sectors. People who lost their homes were moved to Sixth of October city, with some reports of large families being housed in small rooms without services in mining camps, or of being forced to sign contracts for resettlement apartments that they did not receive. Hard on the heels of the rockslide, houses nearby were demolished by the government largely with their contents intact, as people were simply told to evacuate immediately and did not have time to preserve their belongings.[59] The stories told of the Duweiqa rock slide continue to focus on unplanned housing, careless government officials, and unmanaged sewage.

The month following the rockslide, then-President Hosni Mubarak issued a presidential decree establishing the Informal Settlement Development Facility (ISDF) with purview over improvements to slum areas on a national scale. The first step of the ISDF was to survey all of the *ashwa'iyyat* [random or informal areas] and categorize them as unsafe or unplanned. Unsafe areas were slated for immediate demolition. One such area was Establ Antar, an adjoining squatter settlement located to the south of Ezbet Khairallah, both of which are located on the same limestone outcroppings as Mansheit

[58] Hussein, Abdel-Rahman. "Emaar accused of culpability in Duweiqa rockslide" *Daily News Egypt.* September 18, 2008

[59] http://madamasr.com/content/evicted-and-nowhere-go Last accessed March 23, 2014

Nasser. With little notification, buildings along the cliff side of Establ Antar were destroyed and people were again forcibly relocated, this time to a desert satellite city named Sixth of October, far removed from their social networks and places of work. Some have subsequently returned to the area, transformed from modest home owners to anxious renters or staying part time with friends and relatives in the area in order to access employment opportunities.

The formation of the ISDF was a product of a state-in-crisis mode and the brainchild of Dr. Ali El Faramwy, who, as introduced in Chapter One, was serving as the Egyptian National Program Manager at UN-Habitat at the time of the Duweiqa rockslide. According to Dr. El Faramwy, the ISDF is basically an implementation of UN Habitat guidelines, with minor tweaks,[60] functioning essentially as a bank to lend money to local governorates that would use the funds to build new housing on half of the land and sell the other half to repay the debt. This close relationship between international capital and state security forces has reinforced rather than mitigated the structural inequalities facing the urban poor in Cairo. The move to relocate people to the desert satellite city Sixth of October reverberated through Ezba as a dire warning of a possible future for all of Ezba's residents if the land that they sit on becomes too valuable. Importantly, a central factor sparking this chain of events was sewage. Unmanaged wastewater was a key factor in the original Duweiqa rock slide. Moreover, such overflows of waste echo though Ezbet Khairallah as a key indicator of the area's location in state priorities.

Something like a weary sewage cosmopolitanism is arising in Ezbet Khairallah. When I asked people what they thought Ezba would be like in a few years' time, many said that they thought it would be the best place to live in Cairo. It is only five miles from

[60] Personal Interview September 20, 2010

Tahrir Square and located near to the metro and to Salah Salem Street. The future looks bright if utility services continue to improve and if, once improved, the people who live in Ezba now are still around to enjoy the benefits. Residents of Ezba have learned to create advocacy communities centered on issues of wastewater management, in part in response to the Duweiqa incident, but largely centered around their own collective action to change their situation. People marched. People protested. People sat on the doorsteps of ministries and didn't go away. As one long time employee of the Ministry of Water told me, "Those Ezba people came and kept coming, and they would block you from getting in to the Ministry. Eventually, the Ministry just gave in." Not quite "just gave in," maybe, but were certainly motivated by public pressure that area residents were able to put to bear, including some savvy leveraging of new media. One Ezba matron said in response to my question of how Ezba managed to get approval for a state sewage system, that they marched and embarrassed the government. "You can see me on Dream TV at the marches" she told me. "Look it up on the internet--they have everything there."

In another iteration of the refrain of Ezba's poverty cosmopolitan, broader than the sewage cosmopolitan that area residents have developed, and arguably less grounded in local concerns, was a recent (August 2011) Tweet back campaign on behalf of Ezba's residents. In what is hailed as Egypt's first Twitter fundraising campaign, social activists hot off the social media connectivity of the revolution that ousted former President Hosni Mubarak were able to raise $218,855 in ten days for *Khair Wa Baraka* organization, which intends to use these funds to pave roads in the area. [61] This fits in with the narrative about the political changes in Egypt that have been on the forefront of political consciousness since January, 2011; technologically savvy urban youth meeting injustice

[61] "EGYPT: Activists use social media to help slum-dwellers" on Alternet. Accessed October 16, 2011. http://www.trust.org/alertnet/news/egypt-activists-use-social-media-to-help-slum-dwellers.

with electronic connectivity. Certainly, that is an important piece of the puzzle. However, as many moments in this dissertation demonstrate, people in places like Ezba have been engaged in everyday work to challenge, work with, evade and selectively misunderstand state institutions and representatives thereof, often around concerns over the basic services of life. Sewage in Ezba is one such example, as Asma shows me in the next section as she urges me to give the problems in Ezba a loud voice.

SEPTIC OVERFLOW

The first time I met Asma, I was lost in Ezba and turned down a narrow side street, no wider than six feet across. Sewage puddles spanned almost from doorstep to doorstep, and sitting by her front door a woman was having a cup of afternoon tea. She told me that she had just spent the morning ankle deep in the puddles, pushing the wastewater out of her small street and onto to the main thoroughfare. Her neighbor told us that the water comes up yellow and turns black with the contact with the dirt. She pointed at a spot in the middle of the street, where we could see it bubbling up from the unlined concrete septic tank below. They had been trying for days to get a truck to come and suck the sewage out, and Asma told me that the only way to get the sewage trucks to come and clean the tanks was through bribery. What was there to do? When the septic tank was full, as frequently as once a week or once every few weeks, they had to go in search of a septic removal truck and hope that they could get it to come before the whole street filled up. This week they hadn't been lucky, and Asma had spent the day trying to manage the overflow.

Figure 11: A puddle in a side street in Ezba caused by an overflowing septic tank, or *transh*. Image by author, 2010.

I asked her if that kind of contact with sewage would harm her. "It already has," she replied, lifting first one leg and then other, pulling back her long *galabeya* to mid-calf, offering her feet for my inspection. It was a gesture I became accustomed to, in response to questions about health and the impact of sewage, or as punctuation in the course of a life history retold. A proffered body part without visible injury, but offered in the spirit of proof. Here, see this. It tells my story. This foot, this arm, this cheek, it lives in Ezba. She told me that she wanted me to take the water problems in Ezba and give them a loud voice, to make those responsible hear. She also said something I heard repeated a number of times in my first months of fieldwork: “Do you think you could live here, in these conditions? Do you, really? Not a day. You couldn’t live here a day. Where

in Cairo is there a good place for people to live? Zamalek? Garden City? Fine, if you have the money. But to each what he is able. People live here who are poor, what can they do? They will live here."

Bodies matter in the story of water systems in Ezba, carrying pails and pushing puddles of sewage, kidneys and livers and feet bearing signs of making do, thriving maybe, if you look closely enough. A young girl's eyeballs deformed from the labor of Sisyphus, carrying water up and down five flights of stairs every day on her head. Bodies are vibrant matter (Bennett 2010) that exist in assemblages, are enmeshed in the water and sewage systems that they engage in, that coalesce in moments where somebody asks for an accounting of what life is like in this place, Ezba. Concrete steps leading up from flooded streets, brick walls in living rooms that collapse after sewage water corroded their foundations, PVC piping in a neighbor's house that breaks and floods your home in minutes, destroying twenty years of accumulated bridal china months before the wedding. Meter upon meter upon meter of pink tile for all of the bathrooms that were redone as the state sewage system was put in. The old bathrooms and front halls had to be broken open to retrofit the pipes, so significant amounts of remodeling took place to bathrooms, including the bathroom in Asma's downstairs apartment.

"I CARRY THIS HOUSE ON MY HEAD"

Asma's role as the woman of her household is both longstanding and awkward. She is the eldest of a large family from the Qena region of Upper Egypt[62] and came to Cairo to keep house for two of her brothers something like 13 years ago. Her two eldest brothers came down from Qena, pooled their resources to open a shop in Zaytuna and,

[62] Qena is a provincial capital located in Upper Egypt, some forty miles to the north of the major tourist town of Luxor. Qena is roughly 450 km to the south of Cairo, as the crow flies. Please see Figure 1 in Chapter One for a map of Egypt that includes Qena

following the lead of networks of kin and neighbors from Qena, purchased land in Ezba to build a modest two story house. Asma was nearly thirty at the time and had opened up a small candy and home goods *kishk* (kiosk) outside her family's home with money she had saved. The family decided that she was the most appropriate person to keep house for her younger brothers and Asma left her kiosk in the care of her elderly father.

> Asma: Now he has it and he keeps the money from it. He doesn't even put fifty pounds in my hand when I come home. I built it, and he keeps it.
>
> Farmer: Didn't he pay you something to take it over?
>
> Asma: No, but what can you do? He's old and poor.

Perhaps these are the words of fifteen years of growing accustomed to an awkward in-betweenness, of seeing that she can't quite claim or hold on to a piece of certainty for herself either in her natal home or in her brothers' house. She neither resides in Qena nor is fully settled in Cairo. She has been in Cairo to take care of these brothers until they married, or she did, but she has been a part of building the household from the time the foundations were laid. She carried cement. She chose fixtures. She cleaned the ground. She negotiated with trades people, with porters, with builders, with shops for the components of each aspect of the house. She forged relationships with neighbors, learned where to buy the best produce, stood in bread lines every morning to supply the house with all that it needs. She washes her brothers' clothing, irons them, washes the floor, feeds and waters the chickens, oversees the removal of the septic tank's contents. She argues for the best deal. When the sewage system went online and the family decided to remodel the bathroom, as many families did at that time, she chose the tile and carried that home on her head, and the cement to set it, and the new pipes to fix the bathroom and the fixtures for the new sink. "I carry this house on my head," Asma told me when we

were walking back from the market and I laughed at the sight of her carrying a cabbage home on her head. A cabbage is, I guess, a small thing to place there when so much weight has already been carried.

By this, Asma doesn't just mean that much of the physical labor of creating her brother's home had fallen to her, though that is certainly true. She also means that she has been the social center of the household, establishing and maintaining personal and professional relationships with people in the area and has carried this out with more than a little force of personality. Asma's brother told me once that Asma is the one in the family that you go to if you have a fight or need to get something done. She is the *sit al bait* [lady of the house] and she carries it on her head, but it is not, after all, her house. Whatever her efforts to establish and maintain the household, there has never been an expectation that she would live the rest of her life there. When the elder of the brothers married, he moved to live in the upstairs apartment with his wife and Asma remained downstairs to take care of the remaining brother and a third who spent his vacations from an extended military career in their Cairo household. When the married couple had children, Asma became babysitter, nursemaid and playmate. A few years before I met her, a bitter family division over religious issues caused her eldest brother and his family to move from the upstairs apartment, sell his share of the shop in Zaytuna and cut off all ties. Asma describes being profoundly depressed at the removal of the children that she had been raising since their infancy, and told me that she spent months crying every day, but still she remained in Cairo while her other brothers needed care.

The eldest of the remaining brothers got married late during my tenure in Ezba and moved himself and his new bride, the assistant from the shop in Zaytuna, up to the apartment above the stairs. Asma anticipated that this would be the time that she would move back to Qena and told me that she was torn between relief and frustration. She was

careful not to describe the situation when the elder brother and his family lived upstairs, but said that it would not be possible for her to remain as a servant for the latest bride. She had very mixed feelings about the impending return to Qena, where she would be there to help her aging parents, but would have much less freedom of movement than she enjoyed in Ezba and would furthermore face the enduring tensions of familial religious dispute. To stay or to go? In my final weeks in Ezba, her brother's new bride had become pregnant and her brother had asked Asma to remain in the apartment downstairs to help take care of the house and to watch the baby while his wife worked in the shop. Should she stay or should she go? "I carry this house on my head." If she were to leave, who would be around to manage all of the many needs of the house that she had carried? Just to manage the septic tank was in itself a chore that required a large commitment of time, as I will show in the next section.

SEWAGE TEMPORAL

The *transhat* (pl.; singular is *transh*), or septic tank, system in operation in Ezba is a highly porous waste management arrangement. The septic tanks are large concrete block rooms, roughly 1.5 meters square, sunk into the dirt streets in front of each building. They were put in by residents when they upgraded from the stone and mud rooms built by the first squatters, to the brick and mortar and occasionally concrete structures that have developed over the last forty plus years as Ezba has solidified into a stable housing area. Unlined and often covered only with a plywood sheet, the *transhat* are a constant source of seepage and overflow. All water disposed down the drains or toilets in a household are flushed by a simple system of gravity and water pressure through a central outtake pipe near the top of the septic tank.

Figure 12: An outtake pipe made visible when trenches were being dug for the instillation of the new state run sewage system. Image by author, 2010.

Squat toilets, kitchen faucets and bathroom taps flush shower water, laundry runoff, excrement, and bits of food through PVC piping running from upstairs apartments, through the open area in the center of the building under the front stairs of the building into the tank in front of the house. The household pipes are mostly the product of unlicensed plumbers or DIY infrastructure.

Different housing units fill their tanks at different rates. While a single family home may fill its tank every week to two weeks, the tanks of newer concrete apartment buildings may only last a day or two before needing to be pumped. People manage this in different ways, with some residents attempting to restrict use of water at the individual level, and others living with minimal water supply as mandated by landlords, who shut off water for the majority of the day, or for several days in a row, in order to limit the number of times the trench has to be emptied. Even after residents illegally put in DIY

water pipes to get potable water to their homes, septic tanks have functioned to limit water consumption in the area.

Residents pay for the removal truck, splitting the bill in the case of multi-family homes, and woe betide any woman who is away when the tank is emptied. One young mother in Ezba described her recent frustration when she returned from an overnight trip to her mother's house to find that the trench had been emptied in the morning and neighbors in the building had rushed so quickly to clean their homes, wash their laundry and scrub their rugs that the trench had become full by the time she arrived home in the afternoon. She recalled surveying a pile of her young daughter's dirty clothes that had built up over the previous week which would now have to wait until the next time the trench was emptied, while going to her purse to get money for her share of the removal fee. There are no discounts for having missed the opportunity.[63]

This is just one example of many kinds of disagreement and conflict in the area centered on the septic tanks. When the tank is full, if someone runs water and causes it to overflow, they are very likely to get a visit from angry neighbors, or reproaches repeated to them by neighboring shop owners who listened to the complaints of customers and passersby. With a full tank, people may choose to forgo or delay household cleaning, and use only minimal amounts of water in a bucket to perform ablutions for prayer, to clean their faces, or wash their hands.

This bucket of grey water poses its own set of problems. It can't be dumped in the drain and nowadays there are few bare areas in which to pitch it out. Some women reported conflicts with neighbors arising from someone having surreptitiously taken a bucket of grey water and poured it into a neighbor's *transh*. Other women tell of

[63] As one of the other neighbors had joined us while she shared this story, I felt that the moral of the story was intended for an audience greater than me.

arguments caused by someone who simply dumped their bucket in the street without considering the consequences. Even the daily ritual of shops casting water over the dirt streets to keep the dust down can cause argument, as neighbors comment on the amount used. Because the *transhat* are so porous, the roads likely to turn to mud, and septic tanks emptied only at the expense of individuals, all water that appears in the street is subject to negotiation and contestation by concerned parties.

Sitting on the ground, cross-legged, peeling potatoes and snapping beans for dinner, my conversation with Um Nabeela and her neighbors turned to the tricky management of her eldest daughter's engagement. The late afternoon sun pushed its way through the cracks of wooden shutters, lighting the halo of hennaed hair above Um Nabeela's quick, expressive eyes. "We decided to have the engagement party here. Even though our apartment is small, and Ezba is not a nice place to bring visitors, we wanted to do the party here rather than in Sohag.[64] My husband insisted." This last was by way of praise for her second husband's generosity. Um Nabeela had been a young bride with two small children in Sohag when her first husband passed away. After a few years, she married her current husband and moved to Ezba where he has a small *mashrabia* [latticed woodwork] workshop, leaving her eldest children to be raised by her brother and his wife in Sohag. Now her eldest daughter is in her late teens and engaged to a young man who has Um Nabeela's conditional approval. Her approval was conditional because she disliked that he often attempted to control Nabeela's movements "while she is still living at home."[65] He is, it seems, a far inferior choice to the owner of a dry goods store down

[64] Sohag is a regional city in Upper Egypt, where many of the residents of Ezba came from. Please see Figure 1 in Chapter One for a map of Egypt that includes Sohag.

[65] Farha Ghannam (2002) discusses) this aspect of gendered relations, describing how control over women's movements are a significant issue in the demonstration of masculinity.

the street who had been Nabeela's first fiancé, but who had proven himself too strictly religious for Nabeela's taste, much to her mother's chagrin and continued remonstrations.

On a previous visit, Nabeela had quietly listened to the catalogue of her previous suitors' manifest virtues, merely commenting that she hadn't cared for the dress she was wearing in the engagement photos that Um Nabeela was showing me, and saying that he had acted like her uncle. No great catch in a teenager's mind, such an avuncular groom. The new fiancé is in his mid-twenties and works in his uncle's shop near to Ezba. He met Nabeela a year ago when she was down visiting her mother and had shortly thereafter approached Um Nabeela, who thought him a bit overbearing. Never-the-less, Um Nabeela plays go between and conciliator when the prospective groom calls to enquire angrily if Nabeela had gone to her cousin's house after he had expressly forbid it. Um Nabeela played dumb, *ist'bat*, telling him that she had sent Nabeela to get something for her from their house, despite having warned her daughter a few hours earlier that her fiancé would be upset as she left the house. Better that his frustrations should be directed at her, and Um Nabeela told him that she had not known his wishes, diffusing the issue by assuring the fiancé that she herself was unknowingly at fault and preventing her daughter's frustration at his overly careful management. This is to give *sabona* [soap], to let chafing parties slip easily by on either side of her as she pivots, keeping all in motion, greased by soap as it were.

The engagement party that had been held for the young couple a few months prior was a mixed success. "I wish you had been there to see it!" Um Nabeela said to me.

Um Maya, who had brought a bowl of rice to sift for her family's dinner, looked up with a laugh from her inspection of the rice for stray small stones and insect parts, "Why?! It was a disaster!"

"No, she would have been interested. For her research. But it was embarrassing to bring people to Ezba."

Um Nabeela repeated a sentiment that I heard often in Ezba, that it is uncomfortable to bring guests to the area. How can you explain away sewage on the streets to prospective in-laws and country relatives, not to mention the area's reputation for crime and danger? But Um Nabeela's husband having made up his mind, they began to prepare for the party to celebrate the engagement. The arrangements for such affairs are always complex, negotiating who must be invited and who was likely to take offense, renting an elaborate colored gown for the bride, choosing a hair and makeup stylist, preparing the house and food to host relatives from out of town, sweets and soda for party guests.

A few days before the party, Um Nabeela began to make plans for how to manage the wastewater needs of her party. She needed to have the tank emptied in order to accommodate the extensive use of water that the party would entail, but she couldn't empty it too early for fear that her neighbors would have filled it all the way back up by the time of the party arrived. Um Nabeela's husband paid a small bribe to the driver of an emptying truck to come on the day of the party, and Um Nabeela spoke with all of her neighbors, who would be guests at the party themselves, asking them not to use much water on that day.

Figure 13: Septic tank removal truck in Ezbet Khairallah. Image by author, 2010.

The day of the party, however, the emptying truck driver failed to show and Um Nabeela was in a quandary. Off marched her dutiful spouse, looking for another emptying truck, independent contractors all. Neither luck nor a sufficient amount of extra cash being available, this plan failed. How was Um Nabeela to manage a house full of guests without using water? If she did use water, she was sure to court the disapproval of neighboring buildings and passersby, as her transh filled to overflow. By late afternoon, a command decision was made not to be conservative in water use, but it was by that time fairly irrelevant. Sewage couldn't be contained, bubbling up in a pool above the trench and running down the street. Later that evening, Nabeela came down stairs and picked her way carefully down the street to where the stage and lights had been set up, a vision

in a huge peach hooped dress, matching hijab and veil, cautiously lifting her skirt out of harm's way.[66] Um Nabeela placated as many neighbors as possible by inviting them to participate in the festivities and later took small gifts of sweets to other neighbors in an attempt to sooth feelings over her perceived lack of consideration. These small gestures of consideration, connectivity and neighborliness helped to mitigate the difficulties of living without state services.

NEW PIPES, NEW EZBA

During my tenure there, a long-awaited and much-sought project to install a state sewage system was underway and had some significant impacts on life in the area. The most immediate sensorial impact was the shift in the scent of the streets in Ezba, which was never uniform. In some places there was a reduction while in other places there was a new concentration of odor. On hot days, the smell of sewage rises up to meet you from the road, a warm wave of tangling scents with a short sweet overlay. On cold days, the smell is deeper, more earthy and pungent. It varies by location, thicker near the main streets, which have hosted generations of sewage churned into mud, lighter on side streets when puddles have migrated elsewhere for the moment. It changes by situation, like a quick sock in the nose when water has been left on in the house and let to overfill a septic tank in the road, mixing the contents and unearthing too many propositions to count—but surely enough for a neighbor to come and complain. Heavy or light, sweet or pungent, it enters homes through cracks in windows or open doors, and the message received by people in Ezba, as they tell me, is one of state neglect and social exclusion.

The story of utility services provision in Ezba is one of votes-for-services swaps, in which community members petitioned the state through demonstrations and public

[66] Engagement ceremonies are often large affairs, with the prospective bride dressing in a large and variously colored hooped dress and being made up at the beauty salon as she would be on the wedding day.

gatherings to get services. In response, political candidates promised to implement first electricity and then water utility services in exchange for votes in parliamentary elections. For years, this dynamic played out in pre-election surges in water pressure, changing the pace and smell of life as weak trickles at odd hours turned to strong flows during daylight time. The recent installation of a sewage system took a slightly different route, however. Again, the community came together to protest lack of state utility services, but the final clearance to build the system required a push from a different quarter.

Ezbet Khairallah is located near the prime tourist sites in Coptic Cairo, falling technically under the umbrella of the Ministry of Antiquities, and it was partially an effort to preserve these sites that led to final approval. The sewage system was created in order to combat the large amount of wastewater creeping down the hill and threatening the tourism dollars that those sites signify. While the location of Ezba is considered valuable for its proximity to downtown, and the potential ramifications of sewage on neighboring tourist destinations created a situation in which the political will was mustered to install public sewage services, the residents fear that they themselves are quite expendable. This raises the question of a future ordinary, or a vision of what life will be like in the day to day at some point yet to come. The future ordinary that many in Ezba are envisioning imagines legal recognition, paved roads, clean drinking water and high property values. This is balanced by an imagined future catastrophe, a dystopia, in which a wholesale demolition of the area is carried out by a billionaire and all of Ezba's residents banished to a desert satellite city. This image of a more prosperous place and better living standards for residents falls into and out of the teleology of the welfare state and urban development. It is a future that follows the broad strokes of technological progress but sees its instantiation as a point of constant contest and peri-legal negotiations. It is what Singerman and Amar (2006) might call a weary cosmopolitism, a

vision of a better future that takes little for granted and makes few assumptions about where "assistance" will come from or what it will cost the people of the area.

On my way to visit a contact in Ezba, Um Ameer, I came in close contact with the work of the sewage system implementation. At least half of the length of her street was open, and in this instance workers had not left much of any room to walk along the side. The wooden planks were there, but fewer than usual, and the backhoe was perched at the near end of the opening in the middle of the street. Two men moved out of the way to let me start going by, then one muttered after me "if you are even able." I made it around the side and then had to turn around and come back along the other side to get into Um Ameer's apartment building. Her aunt had temporarily closed up her small street-front store because of all of the work in front of their place. I went to the apartment and Um Ameer noticed that I was out of breath from the climb around the pile of dirt. She went outside on the balcony, both to get more light into the room, and to take a look outside at all of the goings on. I followed her, and we both looked down on the activity below.

Figure 14: The view from Um Ameer's balcony as the trench for the new septic system pipes filled up with water from a burst main. Image by author, 2010.

I asked her how she was managing with all of the work going on in front of her place. She replied that she said that she hadn't been out of the house since the day that I had last been to visit, two weeks prior, when the kids were going off to their grandmother's, because there was so much going on downstairs. She noted that the workers were having a particularly bad day today, and that the mass of thick, dark water filling the trench was from a septic tank that they had punctured while digging the ditch. The ditch was almost full, and they had put in a pipe and pump and were draining the dirty water into the main street of Ezba. It was just a river of sewage onto the main dirt road. While we were standing there, Um Ameer told me that she had heard that the government was going to move people from Ezba to Sixth of October City, as had happened with those whose houses were destroyed in Establ Antar. She said "Maybe it won't happen. Maybe they will only take the people near Eyen El Sera that they are afraid will fall into the water. Like they did with the people whose houses collapsed.[67] Did you hear about that? They may take them for their own protection."

"But isn't it weird that they would put in all of the services and then move people? Especially as they are putting the services in along the routes of the streets as they are now [very uneven]?"

"Maybe it won't happen."

Her sister-in-law arrived with her little girl and joined us on the balcony. While we were standing there, we heard a commotion among the workers. The dirty water in the ditch was being expanded by water from a main that they had also struck, and they were worried that it would overflow and flood buildings along the street. They had finally been able to get ahold of the guy in charge of the water main and he had refused to turn off the

[67] Um Ameer was referring to the Duweiqa rockslide in 2008

water switch. As her sister in law explained to me, "Everyone in Ezba drinks, cleans, does dishes from this water. People need to pray *Maghreb*.[68] What can he do? He can't turn off the water."

Um Ameer responded, "All of Ezba will be full if they don't close it." Downstairs we could see a group of men arguing, one in a suit with a clipboard and looking very official, who was arguing with a group of workers in "professional" clothing, while a group of workers stood around. Finally, some sort of decision was reached and a worker was sent to adjust the pump that was draining the sludge—with his bare hands and standing in his white galoshes on a very small wooden plank over a huge pit of sewage water. More water for the main street below.

Um Ameer's sister-in-law turned to her and said that it didn't matter, that they were all going to be moved to Sixth of October and that Ezba in its entirety was being sold to some rich guy.

> Um Ameer: They are only going to move the people by Eyen El Sera, where they are afraid that they will fall into the water.
>
> Sister-in-law: No, they're going to start up there, by the church, and then take all of Ezba below, we are all going to be moved.
>
> Um Ameer: Then why would they be installing all of this? Why all of this work on a sewage system if we are just going to be moved?
>
> Sister-in-law: Those aren't sewage pipes! Haven't you seen those pipes? Look below you? See those pipes? They are gas pipes. Haven't you see the trucks coming and going, coming and going from Ezba? They aren't installing sewage systems for us! They'll leave Ezba for five years then take us all out to the desert, to the far Sixth of October.

[68] She was referencing the need for water to perform the pre-prayer ablutions known as *wadu*.

She looked to me for sympathy and recognition of the disaster that this would pose for them. Having witnessed the plight of those left homeless from Duweiqa, living with the implications of being in an area that the government "sees without seeing," it was hard to trust the intent of the governorate. Backhoes and heavy equipment rolling in to Ezba conjure dystopic images of destruction and displacement for those who more often find themselves at the receiving end of state security forces than as the recipients of state welfare services.

CLOSING OFF OLD SPACES

Near the end of my fieldwork, Asma's street was put online on the state sewage system. I visited her while she was having her trench drained. Two men were there with long cloth hoses and a simple pump, bringing the water up from the trench and putting it in the newly installed drainage "box" outside Asma's door. Just as I arrived they were pulling the pump back up and preparing to leave. Asma was telling them to keep the pump down there until all of the water was gone. They were insisting that there was very little water left and that the motor would burn/break if they left it to work when the water couldn't reach the intake filter. She took several rocks and threw them forcefully down into the trench to demonstrate how much water remained. Finally, the younger man got the older to appease her by lowering the pump again and running it briefly to show her that no more water would come up. The older one lowered the pump by a rope to the bottom of the trench, then secured the rope under a concrete slab. They got a little water to come up, but couldn't get much. Asma continued to argue with them, and insult them in really strong terms, and provoked one of the guys to pick up a brick and threaten her with it, without much intent. I came to sit next to her, not sure how the situation would unfold. They asked about me and she told them that I was from America and came to see

the people of Egypt, the good people, not the smelly sort that they were, and shouldn't they be ashamed to act that way in front of me. The older man said that he would clean the trench "*ashen khatrik*" [as a special favor to her] which made Asma laugh, saying "As a favor to an American, they would finish!"

When it was clear that still not much was coming up, they unplugged the motor from inside Asma's house and pulled the pump back up. She told them that she wouldn't pay them if they didn't clean the entire trench. They told her that it couldn't be cleaned more than that and she said, "As you like. I won't pay you if you don't clean it in its entirety." The guys started wrapping the hose back up, and managing the water that was inside. At first they tried to empty it into the new septic "box" but ended up putting all of that water back into the trench. A neighbor's six- or seven-year-old son was enjoying being in on the action, and kept trying to help get the water out of the hose, despite being yelled at by the men and finally by Asma. All of this work was barehanded, without any form of protective clothing. One guy was wearing pants cutoff at mid-calf and a t-shirt, while another had on a pair of sturdy work pants. They put the pump and the piled hose on a pushcart, like a big dolly, and dragged it away under Asma's insults. She got a neighbor to come and look at the trench to tell her if there was still water, to arbitrate in the dispute, and he told her that there was just a little water left (by showing her where it would reach from his fingertips to his mid-arm between wrist and elbow). She disagreed with him and said that half was still in there. He said, "This what I see. You asked me to look; I looked and told you what I thought. If you don't want my opinion, then it's none of my business," and then returned to his home.

Figure 15: Asma's street after the new state system had been installed. Image by author, 2010.

Asma then started putting bricks and debris into the trench to begin filling it and I helped move some discarded building materials from the street. She got garbage from inside her house and from her in-progress bathroom renovation to put in as well. Then she tried to put the cement covers on top of the new septic box and the old trench. They were much too heavy for her, so she sent a child to go and get a male neighbor to move it for her. Several either refused, citing work, or just didn't come, until she found one that would help her. While we were standing there, the younger guy with the pump yelled from down the street that she should not leave the trench without a cover in case a neighbor child would fall down and she yelled back at him to go away and mind his own business. A little while later that same guy came back and chatted with her, telling her she owed him 60LE. To my surprise, the man turned out to be her neighbor. She said, "Not just my neighbor but a friend, like a brother" (showing two index fingers entwined).

"Ahh," I said, "I could tell that you love each other from the way that you speak to each other!" They laughed, and he said that he was used to Asma by now. She still refused to pay him at the time, but did give him the money a few days later.

While all of this was going on, a female neighbor of hers came out with her four-month-old daughter. She'd been married over a year, but had been living somewhere else until recently, when her husband moved them back to his family's home in Ezba when he found he couldn't afford the rent outside. She says that her daughter was born with allergies and illnesses due to the trenches and she never used to bring her outside, and would often go and stay with her sister, because of how dirty the trenches were, how much they stunk and made everyone ill. She's very happy that the sewage system has arrived and the family has already filled in their sewage tank. "The smell," she said "made you ill even inside your own home."

Smell rose to public consciousness again one morning when I was riding a shared taxi into Ezbet Khairallah. The driver stopped at the top of the hill from Zahraa to pick up a woman and her small child. After climbing in to the car, the women told the driver "oh, I can't stand the dirt and filth and garage and smell" as if by way of explanation for requesting to be picked up at what would normally be half way through the trip. In response, the driver replied, "Ezba is full of it"

Woman: Ezba is covered in garbage

Driver: If here people don't smell garbage in the morning they get allergies

Woman: It smells terrible

Driver: If there isn't garbage in front of the houses, they'll call the zabbalin [garbage collectors] and tell them "Leave me a bag!"

Woman: The place is a good one, but the people are dirty. It could be nice if the people cared.

Driver: The people here are filthy

Woman: Well, there are some good people here too

Driver: No, finding good people in Ezba is impossible

This conversation reminded me of possibilities for scent to convey messages. In *Prodigal Summer,* the novelist Barbara Kingsolver evokes the richly textured world of sensory messages. A young woman, washing dishes in front of an open kitchen window, catches the scent of a particular flower. Still tense with lingering anger from a fight with her husband, her body responds to the fragrance of a flower that he had, in the past, brought to her as a token of passion or apology. She hears a pause in the drone of the mower he is using across the field and anticipates that this scent has come to her as a message of contrition or love. Her nose and ears become passageways for a moment remembered and a moment desired. The flower's fragrance has invaded her body as a perceptual experience (Serametakis 1994: 6). It has been re-perceived (1994: 9). Did she sigh? Once ingested, did the scent shift the chemicals in her body, alter the flow of neurotransmitters from synapse to synapse? Did her body soften, shoulders relax, hands rest on the ledge of the sink as she leaned closer to take a deep breath in, an inhalation of forgiveness? Her porous body has moved into a circuit of communication with the flower, the fight, her husband, the window and the memory of a surprise moment earlier when this flower was handed to her and meant, "I was thinking of you before I walked in the door, from the moment I saw this flower until now." The scent was not the scent of any flower, but this flower, evocative for the suggestion of a remembered gesture as well as for its aroma.

Kingsolver sets the scene for an inquiry into the language of the flower itself, which exists not only as an object being exchanged in this story but also as a subject

issuing a message of its own. The flower bears its scent as a call or invitation to come closer, to touch, to breathe deeply, to eat. Who is the message intended for? An answer from across the Great Divide between what counts as nature and what as society (Latour 2004) may be that the messages of scent and color and symmetry are intended for an insect audience, that these things are tied to natural cycles of which humans are proximal recipients. But this explanation perpetuates the myth of human exceptionalism and shortcuts a necessary discussion of the vernacular, or consequential, worlds of the flower. In the Botany of Desire, Michael Pollan (2002) discusses the co-evolutionary relationships formed between some plants and animals where the existence, function, or reproduction of each become inseparably tangled, a system of which human beings are a part. What gets planted, what gets plucked, what makes food that sustains life, these things are not of one side (human) or another (nature), even if such a distinction were possible to posit (Tsing 2005). This sensory message of the flower is not only a product of human relations, but also as a message of seduction generated as the flower's own proposition. This proposition, this claim on inclusion in the collective to use Latour's terms, is difficult to understand as such for a number of reasons, not the least of which is a difficulty in positing intention or agency in entities that fall on the Other side of the Great Divide. Were we to recognize the scent as filled with intent, how do we account for calls to be eaten, to be touched, broken, or plucked within a framework that sees agency as resistance to power or utilization? To move yet another step further away from a comfortable ordering of relations with objects signaling their potential for inclusion in the collective, what are we to do with repulsive Others? For example, what are we to think of the bacteria making a living and a world in the sewage pools in the streets of Ezbet Khairallah? This layer of inquiry adds to the complexity of the questions around sewage in Ezba, signifying its poly-vocality. The challenges that sewage poses to the wellbeing

of residents of Ezba, the damage to the artifacts and limestone, and the political possibilities that have arisen out of these dynamics are pieces of a larger story of human's enmeshment in the systems that support and test life in urban settings. Management of this engagement with waste marked particular places as more socially charged than others; Ezba in relation to other spaces in Cairo was more charged in part because of this management of waste, but spaces within homes could be more or less charged as well as in the case of Bathrooms.

BATHROOMS

Bathrooms are a charged space in Ezba homes. You need to know a family fairly well before you can ask to use the rest room, and you need to do it in a pretty low key way if you want to eliminate waste. Because kitchens were so little functioning in some homes, with blocked sinks and slow water taps-something you just can't afford to wait for when you've only got water every few days- the heavy spigot in bathrooms often becomes the main water feature. This is especially true for those living in apartments as opposed to homes, where there is more control over the quality and repair of fixtures. But even in homes, large water-related projects of all sorts often take place in the bathroom; cleaning clothing, washing out water storage bottles and tanks, cleaning children, rinsing fruits and vegetables, and washing big piles of dishes. The sensibility about how to divide tasks by space seems to be based on volume or amount of work to be performed, rather than by the nature of the task. A tray of tea cups or a snack plate could be rinsed while standing at the kitchen sink, but the pots and pans from a large meal were more comfortably done in the bathroom, squatting or sitting on a low stool before some sort of large tub. Elbows on thighs, legs straddling aluminum or plastic basins, with thin plastic flip flops on feet to prevent rheumatism from traveling up from cold tile floors and

settling in hips, women in Ezba squat or perch on overturned soda crates or buckets, sinking into a posture of labor.

These bathroom spaces are charged on a number of fronts. Bodily practices of eliminating waste were particularly sensitive, but simply entering this space meant moving from public to private areas of homes. A guest might be brought to the bathroom to perform *wadu,* and have a fresh bar of soap opened in their honor, while the host or hostess waits near the door holding a towel for hand drying. Once a certain level of familiarity with the family is established, one could move into and out of the bathroom without being accompanied, but not without notice. A number of Ezba contacts told me that bathrooms are the place to really see if a women keeps a clean home, so they are charged places in the moral economy of good home stewardship. Bathrooms are also a prominent location of *jinn* [supernatural others] and there are very particular rules about bathroom behavior and speech intended to maintain good relations with jinn neighbors. All religious speech is considered inappropriate, particularly the mention of God. One should always give warning before throwing hot water, as hot water returns jinn to childhood, which poses quite an issue for beings with such long life spans and is understood to be quite a painful experience. Turning a *jinn* back into a child, or other un-neighborly bathroom behaviors, is sure to earn you the ire of the *jinn's* family. Where people can do so, they build sinks outside of the bathroom proper, or in some other way delimit the space of the sink from that of the toilet.

Um Wasam lives in an apartment block near the top of the plateau on which Ezba rests. This is the area in which many of the new concrete apartment buildings have been built, located near to the one government-run elementary school within Ezba's boundaries, and situated on the main market thoroughfare. I met Um Wasam and her sister, Um Kareem, while trying to figure out how to ride the 50 *irsh* pickup trucks, and

visited them often in their apartments only a couple of floors apart. Having married brothers, then having each having had one boy, two girls, and currently with a male toddler, every visit was a large family affair. Um Wasam frequently told me that I really came to visit them because I was lonely without children of my own, and I wondered if she'd forgotten about my research or if she'd figured me out. Eight children under the age of six in one apartment meant a lot of bathroom sharing, one child on the toilet that hardly flushes and has no cover, another squatting on the floor near the drain.

Figure 16: Um Wasam's bathroom. Image by author, 2010.

Um Wasam's three-bedroom apartment had a single bathroom, fairly large by the standards of Ezba. The sink inside had been broken for months, and had become a repository for the dirty linens of the youngest child. The toilet was an flush toilet, though the flushing mechanism no longer operated and it required a large amount of water to be poured into the bowl in order to force waste down the outtake pipe. When the shared apartment building *transh* was full, waste simply accumulated until an opportunity arose or the waste became too much to bear. The toilet was also the receptacle for large kitchen waste fluids, such as frying oil that had been used often enough, or that had had fish fried

in it. Like all families in Ezba, Um Wasam kept a series of plastic and aluminum tanks, barrels, and jugs to store water for bathroom and washing purposes. In the corner near the drain she had a large blue water barrel set up on a bucket, with a tap built in near the bottom of the barrel.

This, she said, was to avoid the difficulty of contaminating the water when using a dipping cup as happened with the open aluminum containers. The lid to the barrel was a wooden plank, and piled over the lid were children's clothing, awaiting washing day. In another corner sat a local washing machine, an open drum with an osculating paddle.

Being a frequent visitor in her apartment, and having spent time in the bathroom with her cleaning out water bottles when the landlord had unexpectedly turned on the water supply, I felt fairly comfortable entering Um Wasam's' bathroom. On one visit, however, I entered the room as she was using a squeegee to clean the floor after one of the children had not been able to wait for their turn for the toilet. Startled and embarrassed, Um Wasam told me to get out, to go and sit in the guest parlor, a room I hadn't entered for months. A short while later, she joined me in the parlor and studiously avoided any mention of bathrooms or bodily functions until I left. The ubiquity of sewage on the street did not erase the taboo of bodily excretions, and the moment was an embarrassing one for us both.

Ezba bathrooms came under close scrutiny as an exemplar of mismanaged urban waste in early 2009 when it was selected as a site of research on sanitation. One part of the tripartite arrangement of sanitation surveillance, Ezba stood in for urban slum, cast into comparison with village and peri-urban areas. The report, written by the Center for Development Services (CDS) on behalf of the World Health Organization (WHO),

examined women and children's roles in sanitation.[69] More specifically, the report interrogated the behavior of women and children around using public and private bathrooms, hand washing, consumption of water from communal sources outside the home, and viewership of media messages about proper sanitation behavior, under the rubric of market research. The CDS articulated an agenda of proving a baseline of current water and sanitation systems in poor areas in Egypt, understanding gender and generational roles in managing water and wastewater, and, significantly, assessing the willingness of households to contribute financially for potable water and wastewater services. Managing waste in appropriate ways is key to creating proper national subjects, but it is also necessary in the structurally-adjusting state to assess these communities as future consumers of sanitation services. This report is also this other thing, this justification of continued interventionist policy, this marker of lack and backwardness. These people don't have their shit together.

Sewage in Ezba marks absences, of state services, affordable housing for low-income migrants from the countryside, social capital, respectability, growing empty spaces in limestone. Sewage in Ezba also marks excesses, of flies and bacteria, conflict with neighbors, waste that accumulates rather than disappears or even dissipates. Sewage marks Ezba bodies by smell, by traces that may be more felt than seen, by association with matter out of place. Sewage issues cannot be delinked from questions about health, concerns over management of populations, urban design and teleological developmentalist ideals. Residents of Ezba have worked to create a better future for themselves, advocating for better services, but each step brings with it attendant anxieties about the value of the area in their absence. The next chapter takes up five water-

[69] Center for Development Services (CDS) "Market Research Report on Water, Sanitation and Hygiene" June 2009

objects—the pump, the meter, the bill, the tomato, and the *sabil* (fountain)—to investigate daily water practices and the interaction of the residents of Ezba with representatives of institutions of the Egyptian state.

Chapter 4: Water Objects

Figure 17: Charitable water fountain, or *sabil*, in Ezba. Image by author, 2010.

WATER INFRASTRUCTURE

Water infrastructure is a key component of making modern cities, not simply for creating the conditions necessary for survival in urban spaces, but also as an essential element in the rationalization of space. This rationalization of space is at the heart of reshaping cities to be locations for citizen production, capital accumulation and the development of municipal governance (Gandy 2004). Infrastructure of all kinds is implicated in the modeling of the affective landscapes of cities, not just for the component parts of concrete, steel and PVC that may be inherited or do-it-yourself (DIY), but also in quotidian evaluations of possibility and plans for the future dreamed of

by residents. Urban water infrastructure is built on the particular histories of a given city, tied up in strands of colonial encounters, geographical anomalies, instantiations of new mechanisms of control, everyday rhythms of subversion, attachment, and the vagary of accretion. Onto or within these networks of received possibility, people plan futures, make do, and hope.

This chapter will discuss urban water infrastructure and its connections with affect in the city. It will do so through an examination of Nigel Thrift's (2004) articulation of structures of malice and kindness built into western cities. This literature examines the ways in which city infrastructures create particular affective realms, principally negative and misanthropic in many cases, but also possibly kind. Furthermore, it engages with the question of what the relationship is between kindness and hope for a potentially better future. The chapter then turns to Abdel Malik Simone (2004) for an interrogation of the spatialization of possibility in urban centers in Africa, investigating the breakdown in previous structures that had provided life prospects and the difficult work of crafting new kinds of less solidified networks of opportunity. Then it will turn to a consideration of Mathew Gandy's analysis of urban water infrastructure as it exists in the very different spaces of the global north and global south, looking at the particularities of water's impact on life for disenfranchised urban communities. Utilizing this literature, the chapter examines certain water-related objects to examine how people make do, imagine futures and live in the informal Cairo neighborhood of Ezba Khairallah, and also engages with questions of how residents manage the tricky footing of state recognition, surveillance and monitoring through drops of water and jolts of electricity.

By focusing on the *addad* [meter], *mator* [pump], *fatora* [bill], *oota* [tomato], and *sabil* [charitable drinking fountain], this chapter will demonstrate the gap between

aspiration and reality, the possibilities for conflict when one's gain is another's loss, or when the terms themselves can't be agreed upon, and the creative management of forces far beyond one's control. Attention to the issue of the meter pays dividends in deeper understanding of the role that people expect the state to play, and fears about the meaning of greater surveillance and control over their personal lives that improved services may mean. The chapter discusses the multiple implications of measurement, where concerns over what is being measured and who is keeping track bump up against arbitrary processes of accounting for water. When tracking one aspect of a complicated system like water, what other things come into view? For example, if you can track what's going out (sewage), can you track what's going in (illegal tapping into water pipes)? The pump brings forward the limits of cooperation and shifting alliances as people work to make life possible with resources always stretched just a little too thin. In particular, the pump illuminates the possible disjuncture between scales of the social and the material infrastructure necessary to get water from the Nile to a household tap in Ezba, where improvements to one aspect of the system throw into stark relief the gaps in other facets. How is one to take responsibility for one's share in small but vital aspects of infrastructure when the means for meeting basic needs are so hard to come by?

The bill links these water-objects together, weaving together a story of efforts to collect rent for services by the state, attempts by representatives of the state to divert some of those rents to their own pockets, and struggles by people to selectively engage and evade recognition by the state at times; *ist'bat* or the game of playing dumb. Being held accountable for the cost of water and sewage systems also makes one countable, knowable and identifiable in a particular place. Such countablity holds out the promise of recognition from the state of one's rights to that space, a key aspect of designing possible futures, but such recognition produces anxiety both for the fear that it may not be

forthcoming, or if it is, that it may spill over into excess. As Elizabeth Povinelli (2002) points out, recognition from the state can be cunning, as the double-edged sword of recognition may provide additional privileges but at costs that can be prohibitively high. Excessive recognition can bring its own problems, when so much of getting by is about extra-legal creativity. Alternative versions of systems, in which services are managed and needs met through other circulations, are an important piece of how life is managed in Ezba, as the example of the tomato brings to life.

Focusing on the tomato demonstrates the connections that sustain and constrain life in Ezba, with circular movements between rural and cities spaces that bring people and food, and water with them. Tomatoes help us to trace both the affective terrain and the shifting economic and political situation in Egypt over the last four to five years. Finally, the chapter will take a look at *sabils*, or charitably endowed drinking fountains, as an instance of water Do It Yourself (DIY) infrastructure in Ezbet Khairallah, investigating *sabil* practices for what they can show about the history of the area and shifting evaluations of the possible.

MEETING JUHA

After a long trip to the market, we sat as a small group of women in the cool first-floor apartment of Teta (grandmother), the affectionate nickname of the family matriarch. Teta could rightly claim the title of *hajja*, having completed the pilgrimage while spending several months with her son who was working in Saudi Arabia. Rolling miniature eggplants a few at a time from their plastic bag to cut the stems and empty them of their contents for *mahshi* [stuffed vegetables], the ladies were in a joking mood. Negl'a, Um Sameer's youngest daughter, took up her customary role as the teller of jokes.

Figure 18: Mahshi project with cabbage leaves. Image by author, 2010.

Negl'a told one of the many Juha jokes: Once Juha went to take a train home and brought his donkey with him. He asked the ticket booth, "How much is the ticket?" The vendor replied, "One pound for you, half of a pound for your donkey." "Ok," Juha replied, "give me two tickets for donkeys." This joke fits the Juha template, where the wise idiot figure, Juha, turns common logic on its head. The figure of Juha is an Arabic[70] literary and cultural figure who often plays the fool to comic effect, but whose wisdom comes out in subtle ways. In this joke, Negl'a was invoking Juha as one who played the fool to save money, one of many ways to get just a little further ahead in each interaction. Fifty piasters saved on a ticket are fifty more piasters to have for cigarettes or long-term projects. Of course, a train ticket costs far more than one pound, but here Juha's crafty ability to save what he can is appreciated by those who also work diligently to make each transaction take them just that much further. The joke hinges on *ist'bat*, or deliberate

[70] Juha is also found in Persian and Turkish literature, sometimes under the name of Nasraddin.

misunderstanding, which is a technique of managing the appearance of knowing or understanding something, and key to being a smart individual, or managing life well. It is also significant that it is with his donkey that Juha is willing to make himself equivalent, not only because the donkey is often his companion in the joke, but also because the donkey itself is a figure of the idiot for doing what others are not willing to do. If you want to call someone stupid, you call them a *humar* [donkey] but, as always, there is more to the story, as it is the donkey that can see jinn [spirits].

A strong knock on the outside door to the building was answered by one of the children in the house. He came back in and told the group that the man with the electricity bill was at the door and needed to speak to someone. Um Sameer moved to respond on behalf of her mother, putting on her outer *abaya* [long dress for outside wear] and *niqab* [face covering], and went to meet the man at the door. The interaction took several minutes, as we could vaguely hear as she greeted him and they each asked after the other's families. When Um Sameer returned to the group, she was exasperated about the high cost of the bill. Entering into the topic and the spirit of the moment, Asma told the story of a recent interaction with the meter reader. Knocking on her head, she said that sometimes her head was as hard as stone. The reader had come to her house to read the meter for water. Stepping into the front entranceway of her building where the device is located, the reader mentioned that he was thirsty and wanted some tea. It was an unusual request in the situation, but within the realm of the possible to offer him tea, so Asma asked him how he liked it, "*shayk khafyf wala-mazbut*? [do you take your tea light or just right with sugar]"

"No," he replied, *"ana bahib eshai enashif* [I like dry tea]."

Not comprehending the implications, Asma said she smiled and went to the kitchen to boil the water. He finished reading the meter and left without drinking the tea.

It wasn't until later, she said, that she realized he had been asking for a bribe to read the meter in her favor. "*Shai nashif*! [dry tea]" she laughed.

Asma's laughter was both self-directed and in appreciation of the resourcefulness of the meter reader. She was mocking herself for having missed the clue that this was "that kind" of conversation, that he was opening the door to a negotiation about self-interest and mutual benefit out of the sight of the state system for the collection of rent on water. Being quick on the uptake in these sorts of situations is part of making life possible in the difficult margins of the city, small extracurricular acts of evasion, selective misrecognition, kindness, or *shatara* [cleverness] that open opportunities to earn a pound or save a pound. As the Juha joke suggests, practices of *ist'bat* are part and parcel of making do, as well as part of maintaining sufficient social space to allow for making or missing alternative arrangements. Since she didn't follow through on the request, it is hard to say if the cost of the bribe would have saved her enough in the difference in the water bill to have come out ahead, but the chance had been presented to make the infrastructure of water provision bend in their favor just a bit. Additionally, Asma was laughing at the inventive use of the idiom of hospitality to both mask a direct request for a bribe and also to shift the footing of the interaction to one of social obligation and a measure of kindness. Kindness and its absence is a key aspect of the affective landscape of urban spaces, as Nigel Thrift (2004) articulates, and the relationship between kindness and hope is important to understanding how Ezba residents plan for the future.

INFRASTRUCTURE AS ANIMOSITY AND HOPE

Poking around in the grim corners of misanthropy, Nigel Thrift (2005) investigates the darker sentiments undergirding human relations in cities. In his

rendition, as part innate trait of humankind, part response to the daily lacerations of rubbing up against others, part product of institutions ostensibly designed to mediate against negative emotions, and perhaps part secret pleasure, this wellspring of animosity is a key attribute of the contemporary Western city. Thrift has written extensively on affective aspects of cities, and argues that cities must also be understood as "emotional knots." Sociality, the endless interactions of humans in and with space, encompasses both compassion and kindness, but also "active dislike being actively pursued….malign gossip, endless complaint, the full spectrum of jealousy, petty snobbery, personal deprecation, pointless authoritarianism, various forms of *shadenfreude*, and all the other ritual pleasures of everyday life" (2005; 140).

The "market for fear" in and about cities that Thrift describes can also be read through the lens that Foucault provides on the role of the state to protect those portions of the population that must be cared for from the portions that pose dangers to them (criminally, bacteriologically and racially) (Foucault 2003). As the population became the target of governance, certain bodies and the spaces that they inhabit were marked as "dangerous" to the body politic. Extending Thrift and Foucault, the affective "gist" of particular spaces in the city can be very different, and different yet again at various spatial and temporal removes. The affective knot of Ezba is inflected by a moral universe of religious notions of the value of charitable works, water sharing, resourcefulness, attachments to the place that Ezba is and could become, as well as fear of what had been known as a dangerous space and anxiety about possible dystopic futures.

An additional aspect of the production of the undertow of spite in cities that Thrift (2005) articulates is the militarized organization of space around notions of domesticity that tend to produce and channel animosity, which expresses itself as cruelty and violence. He argues, following Laruen Berlant and Laura Kipnis that ideas of domesticity

centered on romantic love are infused with militarized imperatives (2005: 142). Spatial arrangements organized around such notions of domesticity are, in this rendering, productive of enmity and its correlates of cruelty and violence. Additionally, such spatial arrangements function to channel antipathy towards the most vulnerable members of the domestic sphere. Here, I draw a connection to the production of such internal, private, and domestic spaces as it is often linked to changing notions of hygiene in the nineteenth century with the shift away from miasmic explanations of illness due to the discovery of germs (Gandy 2004). Whatever the ordering logic, the end result is malice built into the structures of the city. Such ill will is engendered by arrangements that cause people to rub up against each other in unwanted, unpleasant exchange such as crowded subway cars or busy summer streets stuffy from the multiplying effects of urban heat islands, to name a few.

Balancing this perspective is Thrift's contention that western cities are far more resilient than generally given credit for, due in large part to integral processes of repair and maintenance at work. Such processes serve to keep necessary infrastructure intact through the labor of municipal workers and volunteers. These processes of repair and maintenance, in turn, offer something like a glimmer of hope, a politics around a possible future that is inherently optimistic but also realistic (Thrift 2005: 143). Thrift is arguing for the creation of a system of repair and maintenance of the city's structures of kindness. Extending the work of Ernest Bloch, Thrift argues that hope is about a thirst for the future, a politics of anticipation, a yearning towards what might be possible. Kindness must be installed in the city in ways beyond the everyday acts of generosity already in operation. Kindness must be built into the very structure of the city, physical, social and institutional, and extended to others beyond the human, including but not limited to animals (2005: 144). Cities "have to be designed as if things mattered, as if they could be

kind too," (2005) and would then become spaces capable of replicating positive affect . Hope, in this interpretation, is enabled through repetition and the expectation of familiar turns; "the pace and rhythm of everyday life, the sheer turn-up again-ness of each urban moment and the quantum of hope that goes with it" (2005: 138-139). Repetition, then, is a key component of imagining a future of and in the city.

The expectation of repetition and return is exactly what Abdel Malik Simone (2004) argues is missing in urban centers in Africa, where life has lost reliability, and the people within these urban spheres often find it difficult to predict the outcomes of even oft-repeated events and activities, or to rely on previous methods of survival or networks of affiliation. As I will show in this chapter, the situation in Ezba mirrors Simone's description in some aspects, and doesn't in others. In Ezba, life has not lost that turn-up again-ness to such a dramatic extent, but the practices of repetition on which a certain future orientation is based are disrupted by uncertainties in ways that color hope about Ezba's future with traces of anxiety. In Simone's rendition of life in certain cities in Africa, young people find it increasingly difficult to spatialize an assessment of their life chances (2004: 3).[71] For example, previous arrangements that organized where people would live, where or through whom they might search for work, where educational or vocational opportunities existed, and what geographic shape their networks of associations would take have become overburdened and largely obsolete. This dissolution has made it necessary for urban youth in Dakar, Pretoria, Douala, and Jeddah to spend increasing amounts of time and effort in the search for networks, connections and opportunities, and the newly created bonds are likely to be spatialized in more flexible and less predictable ways. These networks of scale operate in opaque and ephemeral

[71] Simone is speaking specifically about informal economies and social networks in Dakar, Senegal; Pretoria, South Africa; Douala, Cameroon; and Jeddah, Saudi Arabia.

ways, as people attempt to invent new ways of surviving through utilizing and co-opting the social, material and ideological resources at their disposal. Old ways of doing things, knowing people, or making meaning become pieces in new puzzles of opportunities outside of immediate kin or neighborhood networks, but these puzzles only "fit" for short periods of time, if at all. A constant process of making, undoing, and remaking new ephemeral platforms on which to secure a livelihood is continuously in progress, sometimes successfully, sometimes not. It is through the connections between disparate places, the transitory networks between individuals of different groups that extend into other neighborhoods in the city, to other cities in the region, to other nations, that life is managed and survival secured in the inventive reordering of the existent into the possible.

In Ezbet Kherallah, the dissolution of existing networks is less stark. Many people came to live in the area through following relatives or neighbors from areas in Upper Egypt, and connections between friends and family are often the first way in which people pursue work, housing and marriage opportunities. Kin and neighborhood networks drew many people from Qena and Sohag in Upper Egypt to settle in Ezba, as well as chains of connection from Kafr El Sheikh in the Nile delta to the North of Cairo and then to the area. That these networks are overburdened, however, is clear, as there are a finite number of any kind of opportunity, but a nearly limitless supply of people with claims on one. Two aspects of Simone's theorization describe Ezba with particular acuity. The first is that endless searching, testing and enforced flexibility of networks is on constant display. An American or Canadian NGO (depending on who you asked) hung around Ezba like a specter, having provided small cash grants, household goods, and assistance with medical care up until two years before my fieldwork period. Almost invariably, in my first months in Ezba, each conversation with a new contact would include requests for information about the status of this NGO. Is it still operating? Would it come back? Is

someone else receiving the benefits now, and could I help them get back on the list? Networks could be very concrete, such as in the case of a man who found work in his brother's food preparation workshop, and a furniture workshop owner hiring the son of a neighbor for deliveries. Networks could also be ephemeral and odd, as with one young man who had found an advertisement on the internet to serve as an audience member in television shows out in the Media City at 20LE a pop. The family of the young man who earned extra money as an audience member lived largely without water, but they had internet on a second hand European-used computer and a very long Ethernet cable from the nearest cyber café, bought and paid for by his father's labor repairing air-conditioning units.

The corollary of the endless search and the second piece of Simone's theory that describes many encounters in Ezba, is the need to play everything very close to the vest to protect fragile possibilities. The same NGO was responsible for putting in a water pump and connecting a woman's house to the water pipes, and her neighbors bitterly resented that she had never told them about the NGO. They finally found out when they went up to a worker during the installation and asked them how she was doing all of this work, and the person told them it was from an American aid organization. "We don't need anything, we are very lucky, we have a house and food and are fine, we just wanted to know if you had heard of, or had any information on, this organization." The careful management of knowledge, or the appearance of knowing something, was again at work. Who knows what, when, and what such knowledge is worth is a source of constant speculation. When one has valuable knowledge, playing dumb—*ist'bat*—is one way of making sure that such knowledge remains useful.

Practices of *ist'bat* are not limited to urban residents, but might also be accurate descriptors of some actions of state agencies and their representatives. Examining the

history of water infrastructure in Mumbai, Mathew Gandy (2008) describes the ways in which plans to manage potable water provision and wastewater services were shaped by conflicting impetuses of the post-colonial state's limited interest in investing in infrastructure, incomplete modernization projects, laissez-faire attitudes of wealthy urban residents, and the repeating fear of pestilence from "undesirable" portions of the population. Indeed, urban water infrastructure was instrumental to the development of municipal governance (Gandy 2004). Gandy suggests that in the case of Mumbai the deficiencies in infrastructure are likely to be disguised rather than addressed, looking at the way in which the city was chronically unable to meet the water needs of its rapidly expanding population and dogged by competing political agendas. To repair the aging and degraded water infrastructure and extend service to the poor would require financial investment difficult to imagine, with private companies retreating from large municipal water projects and schemes financed by international aid organizations failing. Amassing the political and financial will was far beyond an Indian state that is invested in the middle class as legitimating political populace.

Investigating the relationships between the built form of cities and the patterns of life of urban inhabitants, what he calls "second nature," Gandy argues that we must attend to the ways in which some cities, particularly in the Global South, "brutally circumscribe" access to basic necessities (2008). Deeply in need of these services, marginalized communities are especially vulnerable to manipulation by those who promise improved services in return for political allegiance or who make more direct demands for "rent" for provision or access. In part, severe inequalities in the distribution of water and sanitation services are enabled through other mechanisms of spatial and social disarticulation, where the impacts of too little to drink or wash with and too much sewage can be differentially imposed on parts of the population. With respect to public

health in Mumbai, Gandy notes that "severe disparities in public health can persist because of the array of technological, scientific, and architectural innovations that enable wealthy households to insulate themselves from the environmental conditions of the poor" (2008: 122).

The careful distinction between western cities, where technology is booming and infrastructure established and maintained, and cities of the Global South, which are characterized as operating on informal, DIY and improvisational networks, begs the question of hope in the margins. What kind of city-kindness is possible in Cairo's informal settlements, where infrastructure is only slowly encroaching but informal networks certainly abound? Places such as Ezba do not fall neatly into any dichotomy between have and have-not cities, as dire needs for utilities are met with practices of maintenance and repair both formal and springing from attachments to the spaces in which people reside.

WATER IN EZBET KHAIRALLAH

Creating potable water infrastructure in Ezba has been a difficult, long-term struggle for residents. When the area was first settled, the only available water was from public taps in neighboring areas, and no other utility services were available (see Chapter One for an expanded history of the area). For many years, water was brought to Ezba by women walking from the public taps in Abu Ashraf and al-Basateen, balancing jerkins on their heads. Several women who had been in the area from that time told me that the lines at the *ghorab* [public taps] were very long and it could take hours to get to one's turn. Women would sometimes send children with an empty jerkin to wait in line, and only come later to carry it back. At other times, people would leave the buckets by themselves to keep their place, but that risked someone jumping in front of them. One woman told

me that she had seen several physical fights between women in the lines, and had been afraid as a young teenager to go by herself with the jerkin. It was better, she said, when you could collect a few people together to go at the same time. Many of the women who lived in Ezba at the time said that the people of those areas, Abu Ashraf and al-Basateen, did not like the people from Ezba coming in and crowding the lines at their public taps, and conflicts over water exacerbated tensions between the areas over the perceived lawlessness and danger of Ezba residents. This infrastructure of lack reflected the larger disinterest of the governing structures in the wellbeing of the people of Ezba, produced malice as people rubbed up against one another in a physically exhausting and time-consuming daily practice, and exacerbated tensions between the areas as the affective reverberations of Ezba as a dangerous space grew. These were Ezba's bad old days.

Later, when the road infrastructure improved to a degree, or at least the unpaved roads were formalized as spaces of transit, water began to arrive to Ezba via tanker trucks. In one of the ubiquitous inequalities of water access globally, the cost of such small water provision by tanker truck far out stripped the cost per liter that wealthy residents of Cairo paid for provision directly to their homes. Hajja Basma had lived in Ezba for 26 years, and her daughter Sumya had lived the entirety of her 22 years there, so they had seen it all. Describing the situation that she'd lived through, Hajja Basma said, "At first there was no electricity or water or sewage. People carried water from nearby. [Piped] water came to Ezba about 10 or 15 years ago. Before, it used to be that a truck came around and sold you drinking water for about ¼ of a pound for a jerkin of drinking water, or a couple of pounds for a big barrel of water for building the house." The barrel water was not, she and her daughter stressed, for drinking. In addition to construction, it was also the water used for household chores and bathing. "Electricity came to the area much earlier than water," the Hajja noted. Ezba finally got water thanks to Fayda Kamel,

who stood for parliament and, when she won, brought water to the area. “Fayda Kamel and some other man, whose name I don’t remember. They stood together for election and when they won they brought water in, created a water company. But you can find all of this history on the internet” she assured me, “it will all be written there.”

> Farmer: What was the water situation for you like?
>
> Hajja Basma: We put in water pipes before and the water was free. [When it became official] they told me that I owed I don’t know how much! Something like 3,000 LE. I couldn’t pay it all at once, but little by little, gathering money from my sons, I was able to pay it off and finally I got a meter and now only pay for what I use. A meter like they have for electricity. Now each apartment has its own meter [in the family building].
>
> Farmer: How did you get the sewage system started?
>
> Hajja Basma: Oh, lots and lots of people went to the Minister and complained. We did many protests. Did you hear about them? We did many protests and finally got the government to agree to put in a sewage system.
>
> Farmer: How long have they been working on it?
>
> Hajja Basma: A year and a half?
>
> Suyma: It’s going on two years.

Echoing the experience of Mumbai that Gandy details, utility services in Ezba were largely obtained in votes-for-services swaps, in which community members petitioned the state through demonstrations and public gatherings to get services. In response, political candidates promised to implement first electricity and then water utility services in exchange for votes in parliamentary elections. For years, this dynamic played out in pre-election surges in water pressure, changing the pace and smell of life as weak trickles at odd hours turned to strong flows during daylight. As Gandy points out about the long arch of water infrastructure, those with the greatest need and the most limited access to centers of power are often the most vulnerable to the political

mechanizations of ballot box electioneering. Speaking with officials it becomes clear that they are, in turn, also pressured by the presence of places like Ezba, when the volume of people and the unofficial drains on water networks reach such levels that they can no longer be ignored. One employee of the Holding Company for Water and Waste Water center responded to my question about how Ezba got official permission for water, "The government had to respond to what they found in front of them!"

I spoke with Dr. Mehdi Alam, the representative to the People's Assembly for the Zahraa area of which Ezba is part. This meeting with him helped to clarify the relationship of *ist'bat* or selective misrecognition characterized the relationship between Ezba and many entities of the Egyptian state system.

> Farmer: Following up on the fact that the people in Ezba do not have tenure,
>
> Alam: Yes, they do not have licenses [deeds].
>
> Farmer: Yes. How do they get water?
>
> Alam: They have unofficial connections. They know that there is pipe 500 meters long and they have some plumbers or engineers without licenses. Mainly it was portable supplies through cars which carried it into the area to sell it to them.
>
> Farmer: They have bills in their names, how do they get bills in their name?
>
> Alam: Bills are for the new connections, just for the newly connected. Old connections don't have bills.
>
> Farmer: Are the people there able to vote?
>
> Alam: Anyone who has an ID card can vote.
>
> Farmer: Anyone who has an id with an address in a certain area?
>
> Alam: No, when someone goes to vote he looks on the list and if they find his name he can vote. It is not necessary to carry the card. Starting in 1981 it was automatic enrollment. Births before that, they have to go and apply for

registration to vote. So it is not necessary to carry the red card of the election as long as you know you are registered in your unit.

Farmer: Are people in Ezba registered?

Alam: Many of them.

Farmer: And they got this through an ID card listing their address in Ezba?

Alam: Especially the new generation, they can automatically go to their unit and vote, starting in 1981.

Farmer: Do you campaign in those areas?

Alam: Of course.

Farmer: What kind of environmental issues are there in Ezba?

Alam: There are all of the kinds of issues there (laughs). You can have all the list of pollution and put it there. They are lacking sanitary water. They are lacking drainage for the sewage water. They are lacking a solid waste system. They have some air pollution because of the open burning of solid wastes. Because in the slums there are small industries using furnaces, and in the furnaces they are using some of the plastics so this is another source. They are mixing activities. The house is not only a house. It is a house and workshop and farm all in the same time, so this is another kind of pollution. The social pollution is a major one. So they are suffering from many environmental problems.

Farmer: Are there any plans to ameliorate Ezba?

Alam: There is plan for all slums according to the plans of the Fund [see Chapter One for more information on the Informal Settlements Development Fund].

Farmer: Have you been to visit Ezba?

Alam: Many times, because I was elected local counsel for Cairo governorate for 12 years and I represented this area. I know the area when there were only 10 houses and I know the area when there are 10,000 houses.

In response to a question about how these houses in Ezba got started, Dr. Alam said that gangs came in and divided the land up between themselves, then sold plots to those newly arriving to the city from areas in Upper Egypt.

Farmer: Who would do that?

Alam: Many people. People here use the resources of the country as if the government is not seeing them, or sees them blindly. So they do anything. The illegal actions are a lot. So every year you have a lot of houses being built and no one asks them why. This is an old bureaucratic attitude, coming from Turkish and British colonization. They keep it to be lazy in the government, this is a good rule. To be active in the government you will be fired so quickly.

This interview with the Representative for the Zahraa area, including Ezba, both provides insight into the establishment of the area, and demonstrates the political situation in which Ezba residents find themselves as they seek to gain services while maintaining some kind of balance in the costs of gaining recognition. The kinds of *ist'bat* practices of state agencies-- for example, taking account of the water being drained in unofficial connections to the water supply without fundamentally acknowledging the existence of spaces in which such tapping is done, or reading meters but sending out collectivized bills-- are substantively different from the kinds of creative ways that people manage vernacular infrastructure in Ezba. As seen with the bills, such provisionality by state actors can seem quite inflexible to those experiencing its effects, such as paying 15 LE for a water bill one month and 200 LE another month. When confronted by deliberate evasions, misrecognitions and disavowals by state agencies, people can force themselves into visibility. It was through, at one level, the sheer force of the amassed bodies and bricks and piles of concrete, and the potential for these to exceed the limits of this space, that Ezba residents were able to get piecemeal accommodations from various departments of the government. Gaining services all the while remaining discursively equal before the law—they could vote because they had residence cards, even if their tenure on the land was in question. The double edge of the recognition sword sets the stage for the lives of other water objects, such as meters. What does it mean to have water

in Ezba? So not just how did it get there, but how does it get measured and what does measurement mean?

METERS

The reading of meters and the bills that come around afterwards are related, but often in less than direct ways. When faced with a bribe-asking collector, Asma had the opportunity to lower her water bill, but at a cost that may or may not have been greater than the difference in the bill. Many times, the cost on the bill is not based on the reading of the meter itself. Bills often seem to be randomly assigned at very high rates, and many residents said that it was done to recoup some of the costs of provision to those without meters at all. Representatives of the Holding Company for Water and Waste Water (HCWW) denied that bills were based on anything other than meter readings, but it was a story I heard often from Ezba residents. In addition, a portion of the cost of the installation of the sewage system started to be prorated on a monthly basis on the water bills, increasing some bills to over a hundred LE when they may have been 5 - 20 LE previously. Each month was a surprise, and people complained about the lack of predictability. The problem was larger than the water bills, as electricity bills also fluctuated widely. Systemically, the messiness of measurement systems—too few meters, long histories of unofficial connections, bureaucratic gaps in accountability—made utility bills particularly open to contestation.

Ali has lived in Ezba for about 25 years, the first eight of which, he said, there was no electricity; they had been using lamps that caused his family lung problems. His house had just gotten an electricity bill for the previous two months for more than 300 LE. His wife, Amina, had gone to the electricity company office in al-Basateen to argue that they couldn't possibly have used that much electricity in a two-month span, but they

told her that the bill was set by the government and there was nothing she could do about it. She would just have to pay. Amina stressed to me that they didn't have much that ran on electricity, just a few lights and a TV they used a few hours a day, and a shop built into the first floor of the family building that is always closed. It is possible, Ali said, that the government just looked on the registry and saw that there was a shop and assumed that it must have used a lot of electricity. But, Amina responded, on the paper the shop was for selling bread, nothing fancy, as that was the original purpose of the shop. At various points in the past, the shop had been used for a variety of things—after its tenure as a bread shop, Amina had sold her bridal gold to get the capital to open a "snack" shop, selling sweets, sodas and juice. The shop had gone under because so many people had taken items on store credit and the shop had died by the slow dwindling of cash. After a few years, Ali had gotten the space redesigned to work as a butcher shop. He said that he used to get a sheep and slaughter it in the street and everyone knew that his meat was clean. That venture also failed, as now he doesn't have the money to run the shop because even small sheep are very expensive and the wholesale market has raised their prices. As he explained, "People in Ezba are poor, they can't afford expensive meat. Rich people can do what they want but poor people can't do anything or even say anything about water or bills or the system here. They will send in the National Security Police. Everybody in Ezba is just saying "yes" to the government, whatever they tell us."

Ali said that it seems to him they just estimate how much one should pay and it may have nothing to do with the reality of one's life, and there is no real choice. If one doesn't pay, they take the meter, which means being left without electricity. This was the flip side of having formalized the electricity connection, which Ali's family did as part of a strategy to get recognition from the state of their land tenure. But, he said, they didn't have any kind of real rights to the land. They finally got the electricity installed because

there was a candidate who said that those who went to sign up to vote for them would get electricity. Ali signed up to vote for that candidate and had to pay five percent of the value of his land so that the government would consider him a tenant of a "condemned" building or ruins. So in the end he has no real right to the land.

Meters for water had also developed into a part of the "recognition" matrix, becoming more necessary as government services expand into the area. This holds out the promise of "legitimating" land tenure, but also creates unwieldy costs for low-income residents. Many households in Ezba had not installed meters in the time since the water pipes were installed informally, though a few had through the years. Now, however, the cost of installation had risen dramatically and priced some of the most vulnerable out of the market. What had cost 700 to 1000 LE when Teta installed her meter roughly five years previously was costing approximately 3,000 – 6,000 LE during my fieldwork period. It was something of a catch-22. On one hand, the implementation of the sewage system had increased demand and visibility of meter installation, and the cost had risen. On the other, the sewage system was a key component in the move towards granting land tenure to the people living in Ezba, where being able to register plots of land requires residents to provide a history of utility bills as a proxy. The expansion of the state services thus had the push and pull of offering the opportunity for recognition by the state, but at increasingly prohibitive costs. As the possibility of land tenure came into view, those families who were not able to install expensive meters and pay for the high cost of collectivized bills, and who also had not formalized their electricity connections, were being left out. Such dramatic fluctuations called into question the broad narrative of progress, the dream future of Ezba where strong nets of infrastructure undergirded a pleasant place to live. In these ways, the dream future of Ezba became dystopic for some, where the space improved for those with the means to keep up, while others simply fell

further behind. Where one falls on the spectrum of recognizability is a question open to interest and speculation by neighbors and acquaintances, though one might wish to keep such information private.

Um Amina's small soap and toiletries store was a place where people often gathered to discuss issues big and small. Upon my arrival for one visit, there was a group of ladies standing in front of Um Amina's store complaining about water bills that people were receiving. They had just heard that the government was charging roughly 6,000 LE to have a meter installed, when it used to be about 1,000 LE, and they were speculating that the change in cost was due to the septic system. The eldest of the ladies present, Um Fatma, was the mother of the bride in a recent wedding, where the festivities had fried Um Amina's TV due to surging power. She said that that everyone had to pay for the new sewage system in one way or another. She said her meter had been in forever, but Um Amina insisted that she didn't have one.

"No," Um Fatma replied, "we installed it when your mother-in-law was still living in the room behind you," gesturing into the house. Um Fatma was working to manage knowledge by playing *ist'bat*, because who knows what it would cost for these women—or a newly arrived anthropologist—to know about one's meter-status. The ladies visiting the store then collaborated to create an impromptu list of names of those around them who had installed meters. Um Negl'a also complained that the bill had risen a great deal since she'd had the meter installed. It used to be seven LE a month, which she split between herself and the tenant in the apartment over her house, but it was now 25 or 30 LE per month. When asked, Um Negl'a estimated that this change in cost happened over the course of seven to ten years.

After they left, I asked Um Amina if she had a meter and she said no, she had never installed one and that very few people in Ezba have meters. She started hearing

rumors in the last 10 days or so that they were going to be charged around 6,000 LE and said, “The government should help people get water legally, but instead they make it more expensive.” “What happens if you don’t have a meter, do you pay anything?” I asked. “Yes, if you don’t have a meter you pay *gharas* [doorbell]. Someone comes to your door and rings the doorbell and asks you if you have a meter. If you don’t, they charge you 100 or 200 LE. It’s better to have water officially, but the government is making it very hard. This water thing frustrates me.”

I heard repeated complaints about the immorality of charging for water, as water is something created by God and therefore should be provided free of charge. Echoing the concerns that David Osgood from Chemonics articulated, local officials expressed the urgency of impressing on the population the difference between paying for water and paying for water services. One official from the Eyen al-Sera compliant center for the Cairo Water Company asked me to be an intermediary, to explain to the residents of Ezba that the government is not, in fact, charging for the water itself, but rather charging for the cost of getting it to their houses. “You know them [people in Ezba], you speak to them. Please explain this to them! Explain to them that we are not charging them for water. We are charging them for the cost of bringing it from the river Nile to their homes. Is it free to pump the water? Is the pump free? Is it free to purify the water? To build the pipes and pay the people to bring the water all the way to their faucet? No. It costs, and they must pay their share. People in Egypt don’t pay much for water, not like the rest of the world. In other countries it costs a lot, and here it’s almost free—like we are giving it away.”

Meters presented other anxieties, as the measurement they represented introduced other uncertainties. What exactly was being measured? Who was keeping track? To whom did one owe? One woman whose house had not yet installed a meter asked me if

the government would be able to tell how much water she was consuming by measuring what the sewage output was. What goes in must come out, and she was afraid of an unpaid wave of sewage bubbling up and telling tales of theft.

Um Sameer's concerns over measurement were weightier. When discussing the implementation of meters in Ezba, Um Sameer was struck by a thought, "If we are paying for water now, and they say we have been stealing it this whole time, can you imagine the [moral] cost? Think of all of the millions of drops of water over the last fifteen years—to be held responsible for all them." The moral burden of having "stolen" what would amount to hundreds of millions of "drops" of water over these years was an overwhelming thought. Were they to be counted as individual deeds?

MOTORS

In the ways that water systems overlap, improvements to one don't always lead neatly to improvements in others, or they can bring to light or exacerbate existing problems in related systems. Visiting an apartment building, I heard several versions of the day's argument. The previous day the apartment building had finally been put online on the sewage system, a major step forward as they now had a place for all of the water to go—the chief reason that the landlord had limited the running water to their apartment building to certain hours of the day. While the people in the building were responsible for coming together to pay for the septic truck to pump out the *transh* [septic tank] in the old system, a building of that size would have filled even their relatively large trench in a matter of hours if all of the tenants were using water at the same time, making sewage removal constant and very expensive. Overflows would have made neighbors near the building angry, and they would have held the landlord responsible. Long story short, the building was largely dry, in that the water was severely limited, and that in turn limited

the amount of rent he could charge. Additionally, even when the water was turned on, it rarely reached above the second or third floor in the seven-story building because the pump was too weak. Women in the upper floors had to come down to their neighbors' apartments while the water was running and fill buckets and jerkins, to be carried up the stairs on their heads.

The promise of the sewage system coming on line was the promise of round the clock water, finally having access to use the water that was available via DIY piping for the last roughly fifteen years. But there was one step left—getting the water from the subterranean pipes up to the top of a seven-story apartment building. That would require a pump, to pull water up to all of the apartments. One representative of the HHWC told me to be careful not to drink water from homes in Ezba because they kept water in large water storage tanks on the rooftops of their buildings, and the tanks were filthy with mold and dead animals. Rooftop tanks are relatively rare in Ezba, despite the fact that they are designed to serve precisely the kind of uncertain, intermittent water flow situation from which Ezba had long suffered. For many houses, they were an unnecessary expense because water came often enough that most houses could survive during periods of no flow with water stored in jerkins and bottles in their kitchens and bathrooms. Additionally, many of the single-story or two-story homes didn't have pumps to drive the water up to the roof, as they relied on water pressure in the pipes to fill their water needs. For others in Ezba a tank was simply too expensive an investment, or it was too difficult to organize payment in the case of multi-family buildings, however useful it might be.

Figure 19: Water meter in Cairo apartment building. Image by author, 2010.

The day's argument centered on the issue of pumps. The landlord came and told them that he needed 100 LE from each house to buy two new water pumps to get water all the way up to the top floor for each side of the apartment building. People on the first and second floors did not want to pay, including Um Wasam, because they were getting water with the pump as it existed. Returning from work Madam Nafesa found everyone gathered together at the entrance to the building. An elderly woman from the fourth floor was yelling at Um Wasam that she would pay. Um Wasam was yelling that she wouldn't, how could she spend 100 LE that her husband had earned with the sweat of his brow on water for other people?

The conflict unresolved, the landlord told them that he would run the water from 6am to 9am every day for now, until everyone got their money together to pay for the

pumps. People were saying that it was a shame that there was less mercy now, with the *magari* [sewage and/or sewage system] running, than there had been before, and it should be the opposite, especially since Ramadan was going to start in a few weeks. Sitting with Madam Nafesa and her college-age daughter Sumya, they complained about this lack of mercy between people, "at first our problem was the sewage, because the *magari* was broken. The thing that was tiring was the *magari.* But now, that's ended. The *magari* has been fixed. There should be mercy, but there isn't any. Those in control of the water have closed it; they don't want to open it up for anyone until they collect the money. They want 100 LE from each apartment even if they only have 50 LE. There are people who have [money] and people who don't have [money] [at the moment]. How will they [who don't have it] give money? We have one lady upstairs who doesn't have work. How will she pay? It's up to God to find her the 100 LE. And the lady who lives next to her, her husband died, for example, or she's raising kids, how will she pay? Haram [forbidden] or haram, this way? This is the center of the problem."

Madam Nafesa was expressing frustration not only the lack of willingness from some in the apartment building to act collectively, but also at the difficulty imposed by the expectation that residents be responsible for the cost of the pumps.

Farmer: Who was demanding the money?

Madam Nafesa: One who is in control of the apartment building, the landlord.

Sumya: No one can live without water, right or wrong?

Farmer: Right.

Sumya: Especially in Ramadan. During Ramadan the water is always on. Everyone has guests, for example. There are dishes to be washed. The rugs need to be cleaned. The water needs to be running. Being without water is impossible, *Haram.* God will keep account of their actions and punish them. We just want a little water but no, some people don't want us to have what they have. There is

one old woman on the fifth floor who has to haul water from the ground floor all the way up on her head. My neck hurts me too, from carrying water. Water is heavy.

Sumya's frustration is with both the landlord's imposition of the fee and with the neighbors below who "didn't want others to have what they have," despite the daily presence of those who were suffering from its lack. Shouldn't there be mercy for those who couldn't pay, especially in the month dedicated to reminding those with bodily comforts about the deprivations of those who have less? Where was the kindness? Despite the pronouncement by the landlord that water would only run from 6 to 9am, which he intended to be a hardship, the water came on while I was there in the afternoon.

After hearing the first version of the argument I went to sit with Um Wasam for a while. Playing *ist'bat* gently, she talked to me about how difficult it has been to make ends meet without specifically mentioning the fight. If rent is 350 LE, plus other bills for utilities are maybe 150 LE, and her husband was in a small savings association to help pay back his brother's debt for 500 LE per month, and he earned 1000LE a month, what did that leave her to live on? What would she use to buy children's clothes, and to feed them? What about school costs?

Um Wasam: But we are almost done

Farmer: It's almost at an end?

Um Wasam: Yes, there are seven people ahead of us in the savings association, so that means that we have seven more months of this.

They were in such dire economic straights because they were working to pay off the debt of an elder brother living in their hometown. The brother took out a loan for 5,000 LE at a very high interest rate, so in the end he owed 9,000 LE. Unable to pay that back, the man he had taken the loan from was going to send him to jail, so the younger brothers were helping to pay it back. But they don't have much money either, so it put a

huge dent in their lives and the lives of their families. The financial insecurity left Um Wasam on edge, she said, and made her frustrated with neighbors who insisted she would pay for the pumps. The pumps were a good idea for her too, she pointed out—"Who wants to get up at 6am to catch the water while it's on?" If the pumps were installed, she would have all day, every day access to water. But, where would that 100 LE come from? What she wanted, she said, is a piece of land to build on and a truck of his own for her husband. That seemed ever further away.

TOMATOES

> *Lao Al Naher an-Nil ba'a salsa, mish ha'kafee al cusa ila feki ya msr.*
> [Even if] all of the Nile River became tomato sauce, it wouldn't be enough [to make *mahshi* with all of] the zucchini in Egypt.

Zucchini, or *cusa*, is a gloss for nepotism and corruption, the joke being that the problem is so endemic that the literal river Nile in all of its profound length and depth, if transformed into tomato sauce, would be insufficient to handle the scale of the problem. This common joke describes the ubiquity of corruption and nepotism in Egypt circa 2010, as well as the ubiquity of the implied stuffed vegetables.

In early February 2011, I made a phone call to a friend in my research site, Ezbet Khairallah. I had only recently left the field, having traveled back to the US in mid-January after the sixteen months of research. Between my departure and that phone call to a friend was, of course, the January 25th revolution that brought down Egypt's long-ruling President Hosni Mubarak. I wanted to check on her wellbeing, and see what news she had-- as there were reports that some of the thugs hired by the government to harass protesters were coming from Ezba. The first thing my friend wanted to talk about, however, was the dramatic rise in the price of tomatoes in the early days post-revolution. "Twelve pounds (LE) a kilo! Can you imagine?" she asked me. Twelve Egyptian pounds was roughly 2 US dollars at the time, and the price of a kilo of tomatoes is generally in

the 1 to 3 LE range. Here, the tomato functioned as a shorthand way of referring to the difficulties of life during that uncertain moment, a kind of low-tech economic indicator of precarity.

Tomatoes have figured in the news since the revolution for other things as well, as happened in the blogosphere kerfuffle in 2012 over a Facebook post by a salafist group in Egypt warning that the tomato was a Christian fruit because of the resemblance to the cross when cut in half lengthwise. This was another nail in the coffin of rational thought from the religiously-oriented, or so argued those against the rise in prominence of religiously-affiliated political parties such as the Muslim Brotherhood. "These people" can't be trusted to think rationally, as evidenced by casting sectarian aspersions on the prosaic tomato. Then there were the rumors that Israeli tomatoes in the Egyptian market were poisoned with high concentrations of solanine, a naturally occurring glycoalkaloid in plants in the nightshade family, such as tomatoes and potatoes. The story started, it seems, from the idea that genetically modified seeds from Israel were being smuggled in through Gaza and poisoning Egyptians. Last, but certainly not least, were the news reports of tomatoes and shoes being thrown at US Secretary of State Hillary Clinton during her visit in summer 2012 by people who blamed the US for support of the Muslim Brotherhood during their short and contentious time in power. Secretary Clinton brushed aside the intentions behind those tomatoes and instead lamented the waste of food. The humble tomato sure gets around.

As with many things in life, the value of the humble tomato became most apparent in its absence. In Ezba, tomatoes are fleshy, palpable vehicles of virtual water, they are objects manipulated in gendered labor, they are items indispensable to the demonstration of love, they are trace signifiers of circular movements between rural spaces and city neighborhoods, and they are economic indicators that signal the loss of

predictability of daily life in structurally adjusting Egypt circa 2010 and politically turbulent Egypt since January 2011. Tomatoes are items that epitomize contact, that demonstrate the ways that all entities and spaces are fundamentally composites of various interdependent space and creatures necessary for, yet also threatening, each other's survival. Deep red and soft to the touch, light red with green around the edges, sweet and juicy or mealy and dry, tomatoes are a keystone species in Ezba.

Twelve pounds a kilo for tomatoes was not, in fact, difficult for me to imagine as prices had soared during my fieldwork period as well. It also was not difficult to imagine the impact on people's diets and daily lives when so much of the income of poor families in Egypt is spent on food. No one knows quite why tomatoes became so expensive all of a sudden in September 2010, why on Sunday you could make *mahshi* and by Friday you couldn't afford it. Full and empty bellies told heads the story, expanding and contracting, churning acid breaking down nutrients one day and the next gnawing on useless calories from junk food, though the denomination in your hand hadn't changed. Some people in Ezba said it was because the unusually hot summer sun in Upper Egypt had desiccated the tomatoes in the fields. Others said it was that all of the tomatoes were being sold to Europe, while still others imparted with equal certainty that greedy middle men were price gouging during Ramadan. Newspapers and magazines also provided a variety of explanations, though not necessarily more true simply for being written down.

The arrival of a cartload of tomatoes in Ezba in the early morning hours marks the end of a long journey from fields in upper Egypt, where farmers utilize water diverted from the Nile through miles of progressively narrowing irrigation channels (Barns forthcoming) to feed the nation. This fecundity is part of the myth of Egypt, Egypt's "beans, cucumbers, garlic, lentils, and onions" (The *Qur'an*, Surah al-Baqarah, 2.61). These tomatoes are transported in huge Mercedes trucks, or in small Isuzu pickups,

packed tightly but carefully in rickety wooden boxes, traveling overnight on the dizzying, ill-marked highways that connect fields and urban centers along the length and sinews of Egypt. Mostly these tomatoes arrive first to centers of produce distribution in spaces on the periphery of Cairo, to be sold by middle men to smaller distributors or larger shop owners. They then make their way out to neighborhoods throughout the city, sometimes on trucks, sometimes on donkey carts. Fresh coriander, dill, and arugula make their way to housewives harried or browsing, and men stopping to pick up one last item on their way home from work. These little bunches of fresh produce come from small farms on the outskirts of Cairo, in fields that are slowly being engulfed in ever spreading shanty areas exploding outwards scattershot style from the city center. They often move under steam other than fossil fuel.

These are some of the circular movements that link Ezba to other spaces in Egypt, to fertile fields in Beheira and small rest stops along the busy highways. Other circular relationships have people traveling back to natal villages to visit relatives for Eid [holiday] or for a wedding, young male cousins arriving in Izba to crash on the floor while they look for work, small children being sent to stay with grandma to finish the school year while their mothers and fathers try to earn a living. *Baladi* [folk or country][72] chickens occupy Ezba freezers in anticipation of a special occasion or illness, gifts from mothers and sisters in Upper Egypt who carried water from canals or kitchen sinks to fill communal bowls and wet grain and old bread to nurture chicks in backyard or rooftop coops.

[72] See EA Early 1993 for a description of *baladi*

Figure 20: Rooftop chicken coop in Ezbet Khairallah. Image by author, 2010.

In all these relationships of movement, water is transferred from one space to another, following particular social relations of love and money. In this way, tomato-travel is not so unusual, marking rather than creating the nodes of transport and exchange that make life possible in Ezba. Such is the weight of virtual water.

The ladies in Ezba told me that to get the best produce, you have to go early in the mornings when these tomatoes arrive fresh to the market in Ezba or in Abu Ashraf. The best tomatoes, and the best deals, were to be had at the weekly market in al-Basateen, at Tunsi market, but that was before a car careened off of the Sayeda Aesha bridge into the wooden market booths and sparked a massive fire that consumed the whole market area in June, 2010.[73] During my tenure in Ezba, the early morning trip to get produce was more ideal than reality. Mornings were times to rush around the house, urging reluctant, sleepy children to hurry to school, homework packed in backpacks, or a trip to get bread from the subsidized bakeries, to fight in line for one's turn. For those who had the money,

[73] "At least 3 killed in Cairo market blaze" al-Masry al-Youm. Accessed on January 7, 2012. http://www.almasryalyoum.com/en/node/50990

morning was time for a quick bite of *ful* and *tameya*[74] from the local place if you're in a hurry, or the better one just on the other side of the bridge from Ezba, if you aren't. Those without the money drank tea, and waited for the afternoon meal.

Shopping trips for produce were often mid-morning affairs to get lunch ready, or early afternoon on the way back from picking the kids up at school. Um Wasam and Um Kareem were lucky, and could often take turns leaving their youngest children with each other while they ran errands. Accompanying Um Kareem to pick up tomatoes for a *mahshi* project one day, we first had to battle her youngest daughter's desire to go with us on the errand. Minal followed us down the stairs, screaming that she did not want to be left with her siblings and cousins in her aunt's apartment. Her mother attempted to ignore the disturbance, but Minal escorted us all of the way down to the building exit. There her mother took a bag of chips on credit from the small store in the facing building as a bribe, enduring a lecture from the proprietress about the length of her credit bill for treats for her children. With that, Minal headed back upstairs with her prize, and Um Kareem guaranteed an argument with the other children over favoritism on her return from shopping. Flustered, she turned to me and said that she didn't want any of the children accompanying us because the day before her elder daughter had fallen down into the deep trench opened for the main sewage line and had had to be fished out, after which Um Kareem spanked her to teach her not to repeat the mistake.

We walked down the stairs of her apartment building and out into the Negah street market area. It was one of the few benefits of living in the apartment buildings on this high end of Ezba, having such easy access to the everyday vendors. Around noon the sun was hot and strong, and most vendors had cloth umbrellas carefully positioned to

[74] *Ful* are cooked fava beans, and *taymeya* is the Egyptian term for what is more commonly known as falafel. They are common breakfast items, sold in small shops and food carts throughout the city.

shield their wares, and themselves as well, or they sat in the shade of nearby buildings. Today we needed to buy a few kilos of small green peppers and eggplants, a kilo of rice, two bunches of fresh coriander, and two kilos of soft tomatoes. That the tomatoes be soft was a mandate of the *mahshi* project. As many people don't have the money to buy items in bulk and use them for multiple projects, each meal requires the project of assembling its components. Um Kareem and I found a vendor selling tomatoes for the going rate of 8 pounds a kilo. His folding cart had three sections, the first of which had firmer, redder and less blemished wares, the second section less desirable tomatoes for 7.50. The third section at 7 LE were the sadder, overripe and imperfect offerings. Another women joined us as we picked over the cheapest section, searching for just good enough options for our *mahshi* project. She started a discussion with the vendor by first pointing out the low quality of his cheapest option and challenging his price. She suggested that instead he sell the low quality tomatoes for 6 LE a kilo. "No," he cut her off, "tomatoes are on fire [regarding price]." She asked, "But how am I going to be able to make a meal for my family when I can't afford tomatoes?" But how," he responded, "am I to feed my family by giving them away to you?" Um Kareem watched the discussion with some interest, and then returned to the process of selecting tomatoes for her own family. With hungry children upstairs, she had her own work to do.

Can you say "I love you" without tomatoes? Maybe, but your options are more limited. The material and moral infrastructure in Ezba provide particular opportunities and challenges, as limited resources meet careful evaluation of all alternatives that might make one's budget stretch just a little further. Looking next at the practices of keeping *sabils* in Ezba, the connections between today's challenges and tomorrow's hopes come into sharp relief.

SABIL

The *sabil* has a special role to play in shaping the material and moral infrastructure in Ezba, serving to mark spaces as livable and passable and perhaps also spiritual. *Sabils* also tell a tale about the development of Ezba from the early years of small settlement, and possibilities that have opened and closed again as the area has lurched towards incorporation into the municipal infrastructure of Cairo. As in Thrift's imagination of a vernacular infrastructure of kindness, *sabils* are drinking fountains set up as charity, directed to passersby or travelers. *Sabils* demonstrate the particularities of the moral universe in which Ezba's affective dimensions take shape—they are tied to religious conceptions about the value of sharing water, to lines of historical precedent in Cairo, and to changing perceptions in Ezba about what it means to be a part of this neighborhood. In the physical sense, *sabils* can range from simple earthenware pitchers that cool the water through evaporation on to elaborate marble buildings, though many modern *sabils* are mechanized water coolers.

Figure 21: Mechanized Cooler Image by Author 2010

Figure 22: Earthenware Pitcher. Image by Author 2010

Figure 23: *Termos*. Image by Author 2010

Cairo was once renowned for having combination *sabil-madrasa* [charitable water fountain combined with a school], though the *waqf* [endowment] system through which these dual functioning structures were funded in perpetuity by eminent people has largely collapsed (Mostafa 1989). Commonly placed on main roads, near schools, or outside mosques, sometimes people put *sabils* in front of their homes or businesses for ease of care, and in the case of businesses, perhaps also for improved foot traffic. Instituting a *sabil* gathers *hasanat* [merits accrued with God] for its creator, and those *hasanat* can be shared by those who participate in maintenance, or passed on to those to whom a *sabil* is dedicated. Dedications are often made to the memory of a loved one. The simple act of giving someone a drink of water carries a significant cultural load. To give someone water is to give them life, and to give one person life is to give life to all humanity.

Um Hameed lives in a modest cement one-room apartment, the original structure that she and her husband built 26 years previously, and onto which her children have built apartments to the side and above. They live in an older section of Ezba, close to the ring road and Abu Ashraf, where many of the early arriving families built single room homes and accreted apartment buildings over time. They have an Ezba sort of success, arriving in the early days from a rural village and outlasting the deprivations of a service-poor area while their children and the utilities, transportation, and community grew around them.

In her sixties, Um Hameed is mourning the untimely death of two children, a daughter and a son, who passed away in quick succession. To honor their memory, she and her husband decided to get a *sabil.* They spent a few years accumulating the necessary capital to purchase a mechanized water cooler, and finally had the 900 pounds for one of the cheapest versions on the market. They went to a shopping district in old

Cairo and bargained hard to get the one that they wanted, and brought it back to their home. They approached a nearby mosque to see if it could be installed there, but the mosque requested a lump sum payment of several thousand pounds, more than the cost of the device, for upkeep. Disappointed, Um Hameed and her husband decided to install the *sabil* outside their home on a tiny side street. In some places, people who purchase *sabils* will collaborate with family or neighbors living on a main thoroughfare to have the *sabil* placed at their home, thereby sharing the *hasanat* for their role in the maintenance of the *sabil*. However, these sorts of arrangements were beyond the social ties that Um Hameed's family could deploy in Ezba. They brought in a plumber, who drilled a hole in their main concrete wall through which to run electricity and a water line for the device. They bought a metal cage to protect the *sabil* from damage by passing cars. They hand painted a sign with the names of their children and hoped that passersby would pray for mercy on their souls, "pray that they were drinking from the rivers of paradise."

When all of the preparation was finished, they gathered to turn on the *sabil*. Nothing. They plugged and unplugged it. They pulled the water hose off and on, tightening and loosening the fastener. Nothing. They shook it. It was no use, the motor wouldn't come on. They called a family friend who was a mechanic and he looked at it, and suggested that they purchase a new motor. They saved up and purchased a new motor for a few hundred pounds, and he installed it for a nominal fee. Even with the new motor, however, they couldn't get the cooling mechanism to work properly. For now the *sabil* stands in front of their house, collecting political ads and sorrow.

Figure 24: Um Hameed's *sabil.* Image by author, 2010.

> Sitting in the cool of Um Hameed's home over tea, I asked: But the water works? You could take a drink from the machine?"
>
> Um Hameed: Yes, but it's not cold. What's the point if it's not cold?
>
> Farmer: Why don't you get a simpler version? One of the plastic water coolers or…
>
> Um Hameed: Look, we are getting the *magari* [sewage system]. Things are improving. Maybe we'll get this working, we just have to save up. Maybe it will work out.

Such moments highlight the shifting evaluations of what is possible by Ezba residents, what Thrift might call the politics of anticipation, where the future is uncertain but carries the possibility of better things both in the material sense of improved infrastructure and possibility within a local cosmological sense of preparations for the afterlife.

Walking around Ezba, there are many *sabils* on display. Along al-Negah Street there are a few of the large earthenware pitchers in front of shops and small workshops, and occasionally a *sabil* tree, which is a metal frame that holds several small earthenware

pots. More frequent, though, are "termoses," plastic water coolers set on side tables with a cup attached by a string. Residents told me that there had been few *sabils* in Ezba before the large-scale connection of DIY pipes tapped into municipal water supplies some fifteen years previously. Few people could afford the time or effort of hand carrying water from neighboring areas, only to give it away. As Ezba developed, and water connections proliferated, people began establishing *sabils* largely at mosques or in front of businesses. Children whose homes had not yet been connected would stop by to fill a water bottle on their way to school, mothers with small children would pause on their way home from shopping, men on their way to work, patterns which can still be seen although the need is less pressing. The mechanized *sabils* are favorite locations for political advertisements, and many have been plastered with political campaign posters. A *sabil* is a gesture towards the afterlife, "a bodily need met with a spiritual response," as one resident told me.

The proprietress of a small snack store a few blocks from Um Hameed kept her own kind of *sabil.* Outside of her home-based store she kept a white plastic bucket, which she filled with water from her bathroom tap. I had noticed it when walking in and out of her place before, but hadn't remarked on it. One day while we were sitting in her customary location in the entranceway to the house, a dog came up, looked around carefully, and took a drink out of the bucket. I turned in surprise to Um Marwa, and she smiled, "That's what it's there for."

Farmer: You have a *sabil* for dogs?

Um Marwa: Dogs, cats and birds.

Farmer: Really, I'd never heard of a *sabil* for dogs and cats? Maybe birds.

Um Marwa: Weren't we told to take care of everything with a wet liver?

Figure 25: Um Marwa's *sabil* for neighborhood animals. Image by author, 2010.

Um Marwa was referring to a hadith in which someone asks the prophet if one would earn *hasanat* for the care of animals and livestock. Not just livestock, he replied, but anything with a moist liver. The equivalent might be anything with a heartbeat. She said that the idea had come to her after watching a cat come in to drink out of the bucket intended for watering the ducks and geese living under her stairwell, gifts from her daughter's fiancé. A widow of long standing, with a number of children to support on her husband's death benefits and the modest income from the sale of cookies and soda at her shop, any kind of larger *sabil* seemed out of reach. "Do you gather *hasanat* for a *sabil* for animals?" I asked. Um Marwa replied, "Of course. A man went to heaven for giving a dog water out of his shoes."

This was an example often repeated in conversations about the value of water. The popular hadith told of a man who went to the well in the desert to get a drink. When he climbed back out of the well, he saw a dog that was licking the mirage of water. He climbed back down into the well, carried water back up in his shoes by his teeth, and gave the dog the water. God thanked him and forgave him [his sins]. It was often paired with a hadith about a woman who was careless and closed a cat up in a building without

water or the ability to forage for food on its own, and the death of the cat was the reason for the woman being consigned to hell.

Lauren Berlant's (2013) recent work on the idea of the commons, investigating both the romantic notion of a shared public good and its negative inversion through exclusion and resistance, points to the affective dimensions of infrastructure as it separates and connects people in non-innocent, hierarchal ways. The water infrastructure in Ezbet Khairallah has been influenced by the changing patterns of housing for rural to urban migration in Cairo, changing state priorities for urban development, its proximity to tourist sites and geographical layout along a limestone hill (see Chapter Three), shifting political winds, and, the mother of all invention, necessity. Within this network of received possibility, the residents of Ezba have built new possibilities for themselves, for lives that work with water carried on heads or tapped into through extensive chains of DIY piping, for possible futures that manage the here and now challenges of mechanical failure and the promise of potential investments for the afterlife.

The five water objects covered in this chapter—the meter, pump, bill, tomato and *sabil*—illuminate the ways in which water infrastructure is implicated in city possibilities, both of kindness and malice. Thrift's articulation of the affective knot of cities is future-oriented, an accounting of the ways in which the built environment codes certain kinds of potentials that evoke hope, or don't, that allow people to imagine possible futures by making the present knowable, patterns repeatable, or invoke uncertainty and model dystopic dream futures. In Ezba, water infrastructure is changing substantially, and with it attendant modes of measuring and accounting for water use, and of people's belonging to particular spaces.

As the conversation about who did and did not have a meter outside Um Amina's soap shop demonstrated, managing the here and now, and potential futures, requires the

careful management of knowledge--a smart woman knows how to play *ist'bat.* A smart state employee knows how to play *ist'bat* as well, "seeing places blindly" as needs outstrip the possibility for state response, and as individuals manage their own careers. Bills demonstrate the provisionality of state players, as the man who loved dry tea may act to subvert the HCWW's intention to improve the extraction of rent for water services by diverting some of that to subsidize his own very low wages, while the bill that results from his readings operates on a very different logic of measurement than the ticking of the meters would imply. Um Wasam's conflict with her neighbors highlights the disconnect between scales of infrastructure systems, from massive government-led utility implementation projects to building-wide water sharing. Improvements to one system may begin to shed light on fissures in another. The *sabils* of Um Hameed and Um Marwa demonstrate everyday rhythms of subversion, and attachment to place, as residents work endlessly to convert the existent into the possible.

Conclusion

Um Mina drew her chin back, pushing her jowls out and looking at me from the corner of her eyes, "I clean it every day. I'm very clean, very clean. I clean the carpet every day. I put a lot of water on the floor, a lot! I cook every day, I don't serve leftovers. And I clean every piece of food that comes into my house." She invites me to go in with her to the kitchen and watch her clean her meat, pouring dish soap into the plastic bowl in the sink, kneading the chunks of meat like dough, squishing it between her fingers. At the same time, her daughters had pulled all of the rugs off the floor, demonstrating the vast quantity of water that they used to mop and clean the apartment floor. This refrain opened and closed every conversation that I had with Um Mina, "I'm clean, I'm very clean." For all the months that I knew her, I pondered the reason for her repetition of this assurance. Um Mina was unusually persistent in showing and explaining to me her wisdom as a housewife and mother, her vigor in cleaning, her attention to the details of her children's education, the propriety with which her three daughters conducted themselves. But this refrain was tied into an anxiety about Ezba that I often encountered. "*Beta'rafi minina*?" [Do you get disgusted by us?] was always the first question I was asked by hostesses when I made a polite refusal when offered refreshment, adding to the give and take of a hostess's duty to press drink on guests and the guest's job to politely refuse until sufficiently entreated.

Um Mina's concern over being recognized as clean indexes the social and affective repercussions of the material realities of life in Ezbet Khairallah. Residents are sensitive to the messages of value that are coded in the differing access that their area has

to the services of the city, and their bodies are marked by their enmeshment in these systems. The presence of sewage and challenges around obtaining and distributing water leave impressions and reform tissue relations and imprint scent on selves moving in and out of Ezba spaces. In the everyday forms of collaboration and *ist'bat* with representatives of state institutions, people in Ezba work to make utilities work for them. The comings together for actions like the blue jerkin demonstrations in 2008 are moments when area residents stake the claim to their right to the city. As Lefevre (1991) argued, the right to the city is one in which people make a collective argument for a transformed and renewed city. The sewage cosmopolitan as it has been articulated in this dissertation is a claim to collective belonging based on shared struggle, a broadly articulated but resolutely particular connection between people in a diverse city. The city that a sewage cosmopolitan may seek to arrive at is one in which there is collective action and recognition of multiple versions of flourishing and the common elements of a successful platform on which such visions can be based. Reading the experiences of these everyday and collective actions puts into intimate perspective the literature on the nature of the state as neither disembodied nor totally attached to its boundaries; neither an omnipresent entity against which resistance is futile nor so wholly molecularized as to have no coherence in its processes. Residents of Ezbet Khairallah work within these systems of received possibility to articulate particular kinds of political opportunities that set the stage in many ways for the events in Egypt over the last three years.

In this dissertation, I have examined the infrastructure of water and wastewater in Ezba as zones of contact linking the squatter settlement to outside spaces, and that also mediates relationships among its residents and between the humans and non-humans within its borders. I traced how wastewater's flow and collection is shaped by pipes and drains, puddles and hill gradients; how state institutions and processes negotiate water

and sewage systems in interaction with particular marginalized spaces and their inhabitants; and how the universality of water and excrement make them contact zones between humans and an array of zoological strata. This framing offered a closeup shot of systems in place, crafting a geographic object that includes within it systems and spaces implicated in questions of what it is to be a human engaged in relations with our human, non-human biological, inanimate, and non-corporeal counterparts. People in Ezba live in difficult economic, social, physical and political situations, and these systems, flows, frictions, and networks carry with them dangers and punishments, joys and flourishings both broad and incredibly intimate. It has long been the object of social science to see how people make lives, make livings, make homes, make meanings and make communities (which they also destroy and undo). What does it mean to flourish in these marginal urban spaces in Ezbet Khairallah, Cairo and the larger Middle East? What possibilities do histories of spatial segregation currently being remade enable or close for the many interrelated entities that connect there, the assemblages, be they built forms, nonhuman organisms, social worlds, or affective currents? What imagination of futures, world-weary though they may be, become visible in a concentrated engagement with the many lives becoming (Haraway 2008) in Ezbet Khairallah?

Situating this dissertation as a reading of water as a total social fact (Orlove and Caton 2010; see also Mauss 1966 and Durkheim 1982 (1895)), we have been able to read some of the details of life in Ezba by looking at the pipes and puddles there. By following the processes of managing overflow and lack, and the implementation of a new state run sewage system, a sense of the material and political context begins to emerge. As detailed in the introduction, this builds off of earlier research in the city of Cairo, which looked at issues of economy, health, and housing practices in ways that illuminate the challenges of making it in this city for the urban poor. Taking the city as a scale of analysis allows us to

see the political possibilities of Cairo in their particulars, a project of cosmopolitanism arising from the margins of the city to articulate a notion of collective belonging grounded in the many struggles to claim right to the city. Cairo is neither the putative bomb nor the tomb, but instead a location in which people are coming together to advocate for the basic necessities on which residents can build workable and healthier lives.

Building up from the city as a scale of analysis, there is a question of the nature of the state. When people campaign for better services and improved conditions, to what entity do they appeal? What is the fulcrum of their discontent? I have argued that we cannot assume the conceptual death of the state without looking at the ways in which such entities, or its representative institutions and people, are a necessary part in any struggle for improvement. The state may be a figment of its own imagination, not an entity but rather a collection of institutions or processes that work and rework power in the daily interactions of humans face to face. However, getting water and a sewage system in Ezba required action by such state and state-like entities as the Cairo Governorate, the Holding Company for Water and Wastewater, and the Ministry of Antiquities, to name a few. Looking at the state in the Global South is particularly instructive, as Chatterjee (2004, 2011) argues, because forces and relations that are normally considered extra-state or even a corruption of state forms are in fact fundamental to its operation. I would add that a careful attention to the political forces and forms in the Global North may also reveal the ways in which Chatterjee's Political Society are deeply intertwined with governance in these spaces as well.

The dissertation turned this review of the state to a particular attention to the water sector in Egypt, the always-in-flux institutional and organizational paradigms that have sought to manage and dictate relations between water and people in Egypt. It looked

particularly at how water matters in people's lives, at how it is measured, and what different scales of analysis can tell us about how water is conceptualized as a vital resource and basic right. First looking at the where and what of water in Egypt, a picture emerges of the social and political ramifications of the material forms in which water is available—or not available. The Nile River is the primary water source for the country, and a great deal has been written on the impact of the Nile on the lifeways of Egyptian people, and political structures, as well as about the relationships that are dictated by sharing the river with upstream neighbors. Egypt is also home to several aquifers, the most significant of which is the fossil-water Nubian Sandstone Aquifer that is shared across four countries in Eastern North Africa. Managing all of this water, or attempts to do so, have played an important part in the fashioning of both colonial administrations and the nation-state in Egypt. Institutions were created to operationalize this management at the national and local levels, and such institutions have evolved over time in relationship with changing political and economic factors. City spaces have been particularly important, perhaps nowhere more so than the capital city of Cairo.

The city of Cairo has a long history, stretching back over 1,000 years, and the proximity of Ezbet Khairallah to the remnants of this history is part of the story of how the area acquired a state-run sewage system. The water coming down the limestone hill from the unlined septic tanks of Ezba threatened to dissolve the artifacts buried in nearby Fostat, the area settled by the Fatimids in 969 AD. In the early days, Ezba was subjected to sustained attempts at elimination, both because it was settled on state-owned land whereas other informal areas were purchased from famers who owned their land as freehold property, and because the government had given the Maadi Corporation a special building permit to develop luxury housing on the prime location. Ezba is not the only informal area near Fostat, much less the rest of Cairo. In fact, much of the housing

built in the city over the 20th century has been in the form of *'ashwa'iyyat*, or random/informal areas. Strict development and zoning regulations put in place in the 1940s and 1950s, and tenancy laws instituted later by President Nasser, exacerbated shortages in housing driven by increasing migration from rural areas to the city by those in search of work. These informal areas are characterized by little open land left for public space, and the plots of land developed are often covered in their entirety by buildings. In the newly designated typology of informal areas, Ezba has been marked as lower danger because it is not an imminent threat to residents. The area of Establ Antar, which boarders Ezba and lies along the face of the limestone cliffs, was designated as a first level danger and subsequently bulldozed by the Cairo Governorate on the advice of the Fund for Informal Area Development (ISDF). Residents were moved to Sixth of October city on the outskirts of Cairo, mimicking other movements of the urban poor to far-flung areas in the desert outside of the city.

The affective connotation of *'ashwa'iyyat* is another lingering challenge to residents. Despite the fact that more than half of the population of Cairo live in places that fall into the informal category, certain places are considered more dangerous than others. Ezba has been marked out as particularly dangerous, a holdover from the origins of the area as a place where people from rural Upper Egypt first settled when arriving from the countryside. Such lingering can be felt as a sensory sock in the nose when entering Ezba, as the sewage marks space and bodies in particular relationships of inclusion/exclusion in the city and in the welfare functions of the state. Such wastewater excess is produced by the colonial legacies and neoliberal agendas that have shaped so much of the material base of Cairo. In addition to being the physical manifestation of social relations, it serves to shape relations moving forward through time. In the imagination of the modern, the city is seen as the place in which people are remade into

proper citizens of the nation, as well as where pestilential dangers to the population are produced. Sewage mixes these meanings, being the excess of unmanageable populations that threaten the wellbeing of those who have been properly incorporated into the polity. Sewage from Ezbet Khairallah must be managed to mitigate these threats to Cairo-proper, to the valued and valuable remains in nearby Fostat, and to stave off a repeat of the knocking that Egypt's dignity suffered in 2008 due to the Duweiqa rock slide.

The sewage system that was installed in Ezba from 2009-2011 enabled the residents of Ezba to make certain claims about ownership to the land that had previously been out of reach, creating a grid of officiality in utility bills and measured housing plots. However, the rising prices that have accompanied these changes push rents in the area out of reach for the poorest section of the population. Moreover, the promise of this recognition has worked in tandem with the history of the forcible relocation of poor urban populations to instill a sense of anxiety in area residents. Has this investment in infrastructure truly been made to benefit the current residents of Ezba, people ask. The sense of possibility for a revitalized and improved Ezba is matched by visions of dystopic futures in which the rug of services and infrastructure is pulled from beneath these people and redirected to those with the *wusta* [connections/nepotism] to enjoy the ear of interested parties in state apparatuses.

The sense of future possibilities is intimately tied to the infrastructure of the city, one piece of which is the infrastructure of affect. Nigel Thrift and Mathew Gandy argue for a reading of the affective dimensions of the cityscape and how they are tied to other pieces of the urban *benya tahtiya* [infrastructure] fabric. Such city structures often have misanthropy embedded in them, but the potential for kindness also exists in the repetition and turn-up-ness again of city life. Utilizing this literature, the dissertation investigated five water-related objects to examine how people work to make life possible, imagine

possible futures and survive in Ezba Khairallah. The role that residents of Ezba expect the state to play becomes clearer through attention to the stories of meters in Ezba, looking at how measurement of what goes in and what goes out creates anxiety about losing the ability to manage how much recognition from the state one received. Hearing the conflicts that arose around pumps in Ezba demonstrates the gaps in systems, where just getting pipes to buildings doesn't mean that water flows freely. There is cooperation and conflict that arise from meeting the state system at the door to the house or apartment building and making it work for all of the people who live there. As Asma's story of the meter reader exemplifies, utility bills are a site around which residents of Ezba seek to selectively engage and evade recognition by the state. Following the tomatoes in Ezba traces for us a map of the movement between rural and urban spaces that undergirds life, as well as marking a particular piece of the affective puzzle in this place. Finally, the charitably-endowed drinking fountains, such as the sabil that Um Hameed attempted to create, illuminate some of the ways in which residents hope for a better future, as well as some of the challenges that they face making such dreams materialize.

What does all of this mean for the future, in the present moment of political uncertainty in Egypt? During a trip back to Egypt in December 2013, I went to Ezba to catch up and check in. On our way, we passed by Establ Antar and all of the new houses that had been built back along the cliffside on the area that was bulldozed shortly before my original research trip began. The scent of the area had changed, having dried out as the full sewage system was completed, and more stores and shops had wares lining the streets. Sitting with Asma, I asked how things were going.

Asma: z*ay al-zift* [like filth][75] !

[75] *Zift* literally translates as tar, as in the composition of roads. Its connotative meaning is something dirty or disgusting.

Farmer: Things got bad in Ezba?

Asma: No, things are better in Ezba. It was quiet during the revolution, and my brothers went out to join the groups of men protecting the area.[76] But nothing happened here, no violence. Some things have improved; they finished the sewage system, and put in new water pipes.

Farmer: So what is *zift*?

Asma: As you see it, *al balad kharbana* [the country is broken]. The economy is bad, the government is bad, nothing is safe anymore. I don't know what is going to happen here.

While her tone was dire, and I caught her in a moment that contained little hope for a serene near-term future, I was heartened by the small personal and area improvements that had continued despite the political events of the past three years. Her brother's shop was still open and he was able to support himself his wife and two new children, and the sister who remains in the home while the parents work. Since President Mohamed Morsi's ouster in July 2013, there have been rumblings about whether or not Egypt is ready for democracy, or if perhaps a new strong man is needed to unite (in fear?) a population unable to come to an agreement on a vision for the country's future. The political possibilities in Egypt are many, and unclear.

[76] During the revolution, as police and security forces left their stations and retreated from the streets and neighborhoods of the city, local men in many places set up committees to monitor and defend their own areas from violence and looting.

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