CHAPTER 3

Practice Theory and Informal Urban Livelihoods in M'Bour, Senegal: A Case Study of Urban Cultivation

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INTRODUCTION

Throughout sub-Saharan African, in all areas of urban life, everyday practices, such as food exchange, income-generation, transportation and infrastructure development, sustain and reproduce cities. These practices, often described as "informal", offer important entry points for research that explores how the lives of urban residents "hang together" in their efforts to produce individual and collective well-being. In turn, such research has an important contribution to make to urban planning, development, and governance, in particular as it relates to fostering just and equitable transitions towards climate-adaptive cities.

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The basic premise of this paper is that studies of informal livelihoods can reveal embedded social conventions, knowledge, and practices that can serve just transitions to more sustainable cities. Through a study of urban cultivation in M'Bour, Senegal, this research seeks to understand how one informal livelihood constitutes and maintains social and material worlds, and how it integrates with city processes and daily efforts to improve well-being. The conceptual frame draws on Theodore Schatzki's practice theory and is informed by scholarship in informal economies. By drawing attention to the economic, social, and spatial dimensions of urban cultivation practice in a particular place, it becomes clearer how livelihoods are social, normative, and emplaced. Exploring these livelihoods provides insight into: How the city socioecology shapes the practice of urban cultivation; the practices urban cultivators employ in response to socio-ecological conditions; and how livelihood practices shape the civic and city environment. Such a perspective on livelihood offers one way to consider the shared meanings and understandings of the urban lifeworld in relation to urban development and governance. Accordingly, this understanding of what is happening *in place* and why it is happening is useful to decision makers because, in Schatzki's words, such accounts provide direction for "shaping the organizations and trajectories of practice, creating new practices…, eliminating others" (2014, p. 22). In the language of contemporary governance, this is akin to "creating enabling environments" or shaping policy "pathways", but doing so in ways that connect to existing socio-economic systems.

The following section discusses how the prevailing framing of economic life in African cities is inherently hostile to equitable and just urban development. It then explores an alternative framing and how practice theory can more accurately situate everyday livelihood practices *in place* and in relation to the lives of urban citizens. A detailed findings section is then presented, which demonstrates the multi-dimensionality of livelihood and the ways in which people exercise agency in contingent interactions with the urban landscape and other urban residents. The paper concludes with a short discussion of the theoretical and practical implications of the research.

Conceptual Framework and Understanding Informal Urban Livelihoods

Urbanization in Africa is commonly regarded as a haphazard, unthinking, spontaneous, and problematic phenomenon, and the relative size of the informal economy as an indicator of "backwardness" (Potts, 2008). Held up against "the fantasy of (Western) urban modernity" (Robinson, 2006, p. 13), African cities and the efforts of citizens who make them are not typically examined for insights about how to do urban development in ways that improve well-being.

Prevailing perceptions of cities and the lives of urban residents influence the production of knowledge and power relationships and, likewise, urban development policy, planning, and practice. If the urban economic activity of poor people is primarily understood to be chaotic, desperate, and spontaneous, there is little inclination on the part of decision makers and researchers to refer to these processes and practices to inform urban development policies. In fact, these practices are often perceived by city authorities to be "out-of-place" in an urban environment and to adversely affect the image of the city that town leaders would like to project, i.e. planned, clean, tidy, and modern (Potts, 2008). Such perspectives underlie and enable the authoritarian actions of city governments in both the Global North and South, in which mostly poor people are persecuted in their daily efforts to make a life. Examples include the harassment of Sidi Bouzid by Tunisian authorities, who subsequently set himself alight in front of the governor's office, which provided the catalyst for the Arab Spring; "Operation Murambatsvina" in Zimbabwe; and the violent eviction of residents by the Nigerian Navy in Lagos.

Prevailing Conceptualizations of Informality and the Politics of Planning

Urban life in Africa is commonly portrayed as a "catalogue of the utterly devastating conditions that characterize the daily lives" of people living in cities (Pieterse, 2013, p. 2). Within this discourse, which portrays African cities as "all that can go wrong with urbanism", the organizing conceptual dichotomy of formality/informality is used to make sense of urban economic practice (Myers, 2011, p. 4). Although the most basic definitions of formality and informality refer simply to whether an economic activity is regulated or unregulated, the concept has come to serve as

Table 3.1 Characteristics associated with the formal/informal dichotomy

Formal Economy	*Informal Economy*
Modern	Traditional
Legitimate, legal	Illegitimate, unlawful
Growth-oriented, dynamic, innovative, technological	Small-scale, family-run, low levels of technology
Progressive	Static
Enables accumulation of capital	Pre-capitalist, survivalist, and subsistence

shorthand for a number of other characteristics that have implications for how particular economic activities are perceived by authorities. As William Maloney and Jamie Saavedra-Chanduvi (2007) note, "The term 'informality' means different things to different people but almost always bad things: unprotected workers, excessive regulation, low productivity, unfair competition, evasion of the rule of law, underpayment or nonpayment of taxes, and work 'underground' or in the shadows" (p. 21). Table 3.1 provides a summary of qualities commonly associated with each side of the dichotomy.

Several authors have discussed the dichotomy's analytical shortcomings and discredited the notion of a dual economy (see, e.g., Owusu, 2007; Potts, 2008; Roy, 2005), and those arguments are not extensively repeated here. However, there are two main problems that are important to highlight because they provide the impetus for the proposed alternative conceptual approach that results in better characterizations of urban economic life. First, although informality is overwhelmingly associated with economic activities of poor people, research shows that informal livelihoods are practised by people at all income levels who may simultaneously engage in both regulated and unregulated work, depending on available opportunities. Francis Owusu (2007) explains that working in multiple livelihoods has just become the way of doing things in African cities, while Ananya Roy (2009) points out "informality is not synonymous with poverty" (p. 82).

The second issue is more fundamental and raises serious questions about a conceptual approach that organizes economic life into two oversimplified categories that confer legitimacy on some livelihoods, but not on others. The implications for equality, social justice, and the ability to pursue livelihood become evident when one acknowledges how the dichotomy works as part of a "regime of representation" within a particular discursive context, which, in turn, affects how urban space is managed (Escobar, 2011, p. 19). When Keith Hart (1973) initially made the distinction between formality and informality, characterizing it as the difference between wage-earning and self-employment, his intent was to caution against the "unthinking transfer of western categories to the economic and social structures of African cities" and to demonstrate how people adapt their livelihood strategies when the state's macroeconomic policies fail them (p. 61). The significance of the distinction shifted as the concepts became colonized by the development apparatus and were folded into the prevailing "developmentalist" macroeconomic policy framework, thus enabling informality to emerge as an "object of state regulation" (Roy, 2005, p. 149). To his obvious chagrin, Hart (1994) subsequently noted that the "informal economy became a way of turning what is defiantly external to bureaucracy into something internal to it, incorporating the autonomous life of the people into the abstracted universe of their rulers".

A morphological reading of "informality" indicates economic activity "without form" and suggests that informal livelihoods can be distinguished from formal livelihoods according to appearance or type. Within a policy and planning context that regards parochial Western notions of modernity and capitalist economies as "formal", and thus, developed, what seems to concern planners and policymakers is not so much whether an economic activity is regulated, but whether it conforms to narrow and limited notions of (modern) form. For example, Roy (2009) demonstrates how urban governments and businesses engage in informal practices, but because outcomes from these practices accord with a "modern" sensibility and are glossed with a veneer of formality (Table 3.1), they are perceived as legitimate. In contrast, small-scale, "improvisational" livelihoods that comprise the street economy, for example, appear chaotic and are subject to authoritarian crackdowns by urban authorities.

The analytical frames used to understand economic processes must enable consideration of complexity and encourage analyses that discern how these processes differ from place to place and how they differentially affect people in those places. Roy (2005), for example, has proposed understanding informality as a *mode* of development, which, she asserts, provides a common logic that can be applied to all economic activities. Owusu (2007) proposes that a Multiple Modes of Livelihood (MML) approach can help to "indigenize planning" by recognizing that the conditions in African cities require individuals to diversify economic activities.

The next section offers a complementary approach, but argues for an additional emphasis on “place” as an important theoretical touchstone. A place-based approach entails understanding places as “constructed historical processes…in which the extralocal is as constitutive as the local” (Biersack, 2006, p. 16) and thus provides the impetus to focus on the ways in which factors at multiple scales combine to produce distinct and specific places that require different ways of pursuing livelihoods (Casey, 1996; Escobar, 2001; Massey, 2013). Such an approach compels an analysis that valorizes local level complexity, perspectives, and experience, and thus serves an agenda to decolonize city development processes and narratives.

Re-thinking Livelihood with Schatzki’s Practice Ontology

Urban cultivation is commonly viewed by urban authorities to be a temporary, opportunistic, backwards use of city space. In reality, however, urban cultivation is widespread and persists even in densely populated cities. As a use of urban space that is increasingly appearing on developmentalist agendas and which is attracting more interest from African urban planners, it is important to understand how citizens use agriculture to improve urban well-being and negotiate the urban environment. In contrast to much development research, which seeks to produce universal accounts and generalizable policy recommendations, an analysis that uses practice theory can reveal how differences in different places might inform decision-making processes that are *locally* relevant and responsive. Accordingly, this research demonstrates how *one* city plays a critical and active social role in the ways people make their lives, as well as how, in making their lives, people make this city (Biersack, 2006; Escobar, 2001; Feld & Basso, 1996). The idea that the socio-material environments play an active part in the constitution of livelihood is not without precedent, although such research often concerns rural places and livelihoods (Batterbury, 2001; Bebbington & Batterbury, 2001; King, 2011).

In contrast to rational choice or behaviour change theory, which explains human activity as the pursuit of individual interests, practice theory views human activity as a means of reproducing wider social systems (Giddens, 1984). Schatzki et al. (2001) explain that, “practice accounts are joined in the belief that such phenomena as knowledge, meaning, human activity, science, power, language, social institutions and historical transformation occur within and are aspects or components of the field of practices" (p. 11).

The practice of urban livelihoods, then, is much more than simply the means for economically sustaining a household. Rather, the practice of urban livelihoods reproduces social networks that bring into being and sustain cultural, socio-economic, and physical environments (Bourdieu, 1990; Gibson-Graham, 2008; Illich, 1980). That is, urban livelihoods are fundamental in a broad and multidimensional sense to how people "make a life". Urban livelihoods, in addition to providing for material necessities, are constitutive of what Jürgen Habermas calls the lifeworld, or the "informal and unmarketized domain of social life", that serves as a repository for shared meanings and understandings and is a critical locus for social action and change (Finlayson, 2005, p. 51).

Drawing from Schatzki's social ontology (2010), this analysis examines how socio-material worlds are reproduced through urban cultivation and vice versa. Schatzki's approach roots practices of sociality firmly in place by connecting practice to the material dimensions of place. According to Schatzki (2010), social life "transpires as part of nexuses of practices and material arrangements" (p. 129). Practices are construed as organized "manifolds of human activity", shaped by the particularities of locations and relationships. In Schatzki's ontology, the physical aspects of environments are considered fundamental to how lives transpire; human social worlds are made in and from material worlds. Such a perspective compels close attention to city form and material configurations and the ways in which those configurations are implicated in the social practice of livelihood.

Schatzki (2010) proposes three ways to consider how materiality is implicated in the "hanging together of human lives": physical entities in combination with practices compose social sites; the physical–chemical composition of materials affects practice-material arrangements and affects social life; and "biological and physical flows pass through practice arrangement nexuses" (p. 137). Additionally, he proposes four types of relationships among practices-material arrangements that shape social life in various ways: causality, prefiguration, constitution, and intelligibility. Causality refers to how materiality leads to certain practices; prefiguration refers to how material environments set the parameters for possible "paths of action"; constitution refers to the idea that certain material arrangements are necessary, or strongly linked, to certain practices; and intelligibility refers to the idea that the arrangements make sense to/are given sense by the people who carry out the associated practices. Following a brief section about the research site of M'Bour, Senegal, and a description of methods, findings are presented using Schatzki's social ontology.

Site Background and Methods

M'Bour, Senegal, is a rapidly growing, ethnically diverse, coastal secondary city with a population of around 233,000 (most recent data from 2013 census, ANSD, 2014), located about 80 kilometres south of the capital city, Dakar. M'Bour draws new residents from all over Senegal and beyond, as well as expatriates and retirees from Europe. Although small business, fishing, and tourism are generally regarded by town officials as the most economically important livelihoods, many of M'Bour's citizens make their lives, either partially or wholly, with unregulated economic activities.

On the west side, M'Bour's growth is limited by the Atlantic Ocean. On the north, south, and east sides, it is limited by the territorial boundary it shares with the *communauté rurale* of Malicounda. In Senegal, each *communauté rurale* is governed by an elected set of representatives that maintains sovereignty over that territory. M'Bour has subdivided all the land within its territory and any additional land must be acquired through negotiations with the government of Malicounda, although, at the time of research in 2010, the territorial boundary was not clearly defined and disputes were common. As a result, land is in increasingly short supply and is appreciating rapidly.

Enough and diverse kinds of food are easily accessed if one has the means to purchase them. Residents commonly remark upon cost-of-living increases and how expensive food and other material necessities have become in the last decade. Daily power and water outages, petrol shortages, severely depleted fish stocks, and increases in the price of flour and cooking gas are common occurrences, with causative factors at multiple scales. Despite these difficulties, many consider M'Bour to be a city of opportunity and abundance.

The following empirical findings are drawn from interviews, participant observation, photographs of research sites, and document analysis.

Reviewed documents included “Historical Overview and Purpose of Master Plan” (no date), “Town of M’Bour” (2008), “Extract of a Planning Report from the Director of Sanitation” (2008), “Extract of an impact study on the environment for the town of M’Bour” (2008) and “A table synopsis of the needs expressed by the neighbourhood councils of the town of M’Bour” (no date). Most data were collected while studying multiple forms of small-scale dry season urban cultivation from August 2010 to May 2011. The forms of cultivation include micro-gardening, ornamental plant production, fruit tree production, and vegetable production. At the time, micro-gardening was a national government programme that was initially started as a collaborative development project with the Food and Agriculture Organization of the United Nations (FAO) in 1999. The programme operated through local agriculture offices and can be described as simplified hydroponics: plants are grown in lightweight substrates on tables that can be set up on rooftops, terraces, or within walled compounds, which, in densely built environments with limited “soil space”, represents a viable option for growing herbs and vegetables close to home.

Following Seidman’s guidance on interview sequencing, two semi-structured interviews with each cultivator, recorded several months apart, focused on livelihood strategies and practices, outputs of gardens, individual life histories, economic challenges, urban governance, and hopes for the future. The purpose of interview sequencing is to enable interviewees to “reconstruct and reflect upon their experience within the context of their lives” (Seidman, 2006, p. 21). It also helps to ensure that interviewers formulate questions based on realities as they are relevant to interviewees, rather than solely in terms of an external research agenda. Lastly, interview sequencing has the ancillary effect of building trust and familiarity between interviewee and interviewer, thereby better ensuring the trustworthiness of data.

Interviews were conducted with eight men and 10 women at 14 different cultivation sites, and eight officials (seven men, one woman) representing five government bureaus.[1] Interview protocols were developed following multiple visits to, and participant observation at, research participants’ homes (Creswell & Clark, 2017; Lincoln & Guba, 1985).

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[1] Mayor’s Office, Prefect’s Office, Urban Planning Office, Office of Decentralization and Local Development, and Rural Development Office, which managed the micro-gardening program.

Site visits typically lasted one to two hours. Each site was visited, on average, five times over the nine-month study period. Ongoing memo writing and informal conversations with a core group of neighbourhood friends helped develop research themes and insights, and provided a sort of locally grounded peer-review process (Glesne, 2006; Lincoln & Guba, 1985).

Systematic member-checks with interviewees were used to ensure reliability of interpretations, which was an especially important analytical aspect of the research in light of the deep cultural dimensions of the data (Glesne, 2006). Interviews were conducted and recorded in Wolof and French, transcribed by the author upon arrival back in the United States, and coded and organized using NVivo software.

Findings: Material-Practice Assemblages of Urban Cultivation

"Suñu barkaay, mingi ci suuf" ("Our fortune is in the soil").

The above quote, expressed by one of the participant farmers, demonstrates a perception that farming is the basis of well-being. This is a common sentiment in M'Bour and suggests that even among city dwellers, people remain attuned to the value of agriculture in their lives. It is thus not surprising that urban cultivation plays a significant role in shaping urban environments and civic relationships. The research findings unpack this significance by addressing the following concerns: how social and environmental conditions shape the practice of urban cultivation; the practices urban cultivators employ in responding to those conditions; and how livelihood practices shape the civic and city environment. Although the focus is on the cultivation of plants, small livestock figure into the analysis because they are a significant part of the urban cultivation practice-arrangement nexus. Findings are organized according to Schatzki's conceptual framework: physical entities and practices compose social sites; physical–chemical composition of materials affects social life; and biological and physical flows pass through assemblages.

PHYSICAL ENTITIES AND PRACTICES COMPOSE SOCIAL SITES

This section demonstrates how urban cultivation practice-material assemblages have formed, and how such arrangements sustain and reproduce social relationships.

Cultivation Assemblages: Land Tenure and the Construction of Wells and Walls

The basic physical requirements for a dry season garden in the city are that it has a water source and physical protection to help keep roaming livestock and would-be thieves away. Walled vacant lots with wells are common material configurations in M'Bour. That so many of these vacant lots exist, which create the conditions that prefigure urban cultivation, is the direct result of cities' formal land tenure management practices in combination with a common informal practice to safeguard one's claim to urban space. Vacant lots with wells and walls might not prefigure urban cultivation in all places, but in M'Bour, which is populated by people who regard primary production as a useful and productive livelihood, open space is commonly regarded for its agricultural potential.

Land is generally considered to be the property of the state, and urban land tenure is managed through a method called *mise en valeur des zones du terroir* (the enhancement or development of local areas). The state allocates land based on a contingency agreement in which the recipient swears to make productive use of the land within two years. Once someone holds a lease, and invests in the land, they can sell it to someone else.

Land represents a considerable investment, even for relatively wealthy Senegalese, and many people are unable to come up with the capital to both buy the land and build a house. To protect their investment and to comply with the productive use stipulation, many people build a well and wall. Their intent is to return later, when they have saved enough capital to build a house. Partially built houses are a common sight throughout Africa. Instead of "eating their money", or having it in a form that opens them up to requests for (permanent) loans, which they are obliged to respond to, people instead put their money into a physical and durable object. Thus, partially built houses represent a rational economic practice and physically symbolize how one balances social obligations and social/personal goals.

People in M'Bour commonly recount tales of land disputes and trickery. Stories of land "theft" abound, in which someone who is not the leaseholder builds a structure on a piece of land that has not been productively used. In at least some of those cases, the "squatter" apparently emerged victorious when challenged by the leaseholder in front of authorities, due to the productive use stipulation. Similarly, there are many stories of two or three different people holding papers to the same piece of land. For example, one urban cultivator told a story in which two people were sold the same piece of land. Each came to know of the other, and because a claim to land is legitimized by demonstrating productive use, each immediately hired a crew to build bricks. The two crews worked side by side until someone from the town hall arrived on the scene and ordered them to stop. The situation remained unresolved during the research period.

Protecting One's Investment Through Practices of Informality

Many people who hold a lease to a parcel of land live and work elsewhere and are unaware of what happens on their land from day to day. Although claims to land should, in theory, be secured by the lease and by the existence of the well and wall, there remains a common fear among leaseholders that, in their absence, someone will "sell" the land to an unwitting third party or claim the land and build a house. Rather than rely on the formal lease to safeguard their investment, leaseholders create informal relationships with neighbours who keep them apprised of any suspicious activity. In some of these arrangements, the neighbour will ask permission to cultivate the vacant lot. In other cases, urban cultivators seek out leaseholders to ask permission to cultivate the parcel of land. In either case, what emerges is a reciprocal relationship in which each party benefits. In these circumstances, in which the formal institution has proven insufficient to safeguard an individual's claim, people pursue an informal strategy that is rational in the local context.

The walls and wells that compose the social site of urban cultivation might be understood as a material form of resistance to the imposed productive use stipulation. Implicit in that stipulation is a particular view of how land should be managed, and an assertion by the state that it reserves the right to take back land and redistribute it. Building a well and wall, in combination with stationing a local guardian at the site, seems to be an effective and strategic form of resistance even when high-value land is in question. For example, the largest site in the study was composed of nine subdivided parcels in a prime area of M'Bour, just south of a busy intersection leading to many luxury beach hotels. One woman, an absentee leaseholder who lives in Dakar, holds the leases to all nine parcels. She obtained the leases when land was inexpensive, and since then, has successfully resisted several attempts by both the state and private individuals to claim (or in the case of the state, reclaim) the land. She initially hired a guardian to live on the premises in 2003, at which time he started cultivating the site. When the guardian observed that a "for sale" sign had been erected in front of the site, he called the owner in Dakar. She travelled to M'Bour to confront the planning department, which had erected the sign, and was told she was not allowed to hold leases to so much land. In response, she raised the wall, and built more bricks, which are stored on the land, and which, incidentally, are used to protect growing fruit trees planted by the guardian/urban cultivator. At the time of the research period, the guardian was actively cultivating the site and had plans to invest his own money to bring in electricity to run a water pump and thus expand his production capability.

Physical–chemical Composition of Materials

In many African cities, daily reminders of uncertainty provide the impetus to create urban environments that enhance the ability to navigate periodic or chronic shortages. Daily power and water outages, propane and petrol shortages, price increases and depleted fish stocks are realities that people must contend with, but which they cannot control. In that context of uncertainty, the city evolves as a series of material-practice assemblages that mitigate such insecurity.

Throughout M'Bour, there are material objects embedded with meanings that have to do with navigating uncertainty. Many people raise small livestock, just as many have papaya or mango trees growing in their compounds. Public wells exist throughout the city and are used frequently. In the materiality of a well, a chicken or a mango is basic sustenance, which provides the basis for social life.

Such practices might seem more appropriate in rural environments and, indeed, are remarked upon by both Senegalese people and visitors as being “out of place” in cities. But maintaining such practice-material assemblages reflects a rational and vital response to the inability of city governments to provide reliable infrastructure and an ongoing perception that self-provisioning and primary production are important to food and livelihood security. Although citizens in M’Bour might observe that such practices are more rural than urban, their relative acceptance reflects what Maller and Strengers (2014) conceptualize as “practice memory”, the active maintenance of practices that “are able to be reinvigorated under the right conditions” (p. 148).

In addition to concerns about basic sustenance, the social dimensions of food and agriculture are well discussed and recognized, and there are infinite ways in which the physical or chemical composition of plants and animals could be demonstrated in relation to social life: taste, scent, medicinal value, religious symbolism, etc. In this section, three are discussed. First, the chemical composition of soils affects practice-material arrangements and causes cultivators to require soil amendments that they acquire by forming social relationships. Second, the chemical composition of specific plants carries a specifically urban social significance and conveys social meaning. Third, the physical composition of gardens as it occurs in an urban environment reflects a particular norm, which, in turn, has instrumental value for urban cultivators.

Composition of Soils

Soils in M’Bour are mainly composed of sand and thus have little nutrient or water-holding capacity. To make them viable as a growing medium, cultivators use considerable amounts of organic material, which serves as a nutrient source and helps to mitigate water loss. Warm ambient temperatures and daily watering provide optimal conditions for microbial activity. Thus, degradation of organic material is rapid and cultivators must amend soil regularly.

The effect that soils have on social life through the practice of urban cultivation is causative. The composition of soils, and the causal relationships between soils and, for example, heat, microbial action, and humidity, lead cultivators to perform the practice of urban cultivation in some similar ways. For example, every urban cultivator found sources of manure to amend soils on a regular basis. Cultivators choose manures according to availability, stage of plant growth/type of plant, and personal preference. To access manures, cultivators may form relationships with people who raise livestock. In some cases, they pay for manure; in others, they do not. For example, several cultivators had relationships with friends who raise chickens and acquired that manure, which is often mixed with wood shavings (used as a bedding material), for free. That manure is stockpiled and exchange occurs because the practice is intelligible to both parties. In other words, manure has a mutually recognized value to those who produce livestock and those who cultivate gardens, and this mutual recognition leads to a practice of manure exchange, which is an inherent part of the material-practice arrangement of urban cultivation in M'Bour.

Schatzki (1996) notes, "Practice theorists champion practices as the central constitutive phenomenon in social life because they view them as the site where understanding is ordered and intelligibility articulated" (p. 110). In other words, it is through practice that places are created or constituted. Intelligibility, as a socially contingent phenomenon, has spatial, environmental, and cultural dimensions; what makes places place-specific are the ways in which intelligibility evolves and articulates via materiality. Farmers everywhere, as people who engage in the practice of reorganizing and channelling forms of energy into primary production, generally understand that nutrient management practices are important to plant growth. But the relationships, significance and practice-arrangement nexuses associated with implementing these practices vary over time and space, and with place-specificity. The same is true of any practice and its associated material arrangement. It is intelligibility of the practice, or the ways in which meaning is conferred upon these practice-material arrangements, that "organize entities into the integrated nexuses that are what reality is and can be for us" (Schatzki, 1996, p. 115). Although raising animals in the city or exchanging manure might seem out-of-place or "backward" to those who attach specific normative meaning to "urban", or who attach specific spatial parameters to raising animals, it is common-sensical to the people who engage in these practices and who carry them out in ways specific to the particularities of M'Bour's practice-material arrangements.

Composition of Plants

Likewise, food, its meaning, and the ways in which it figures into the practice-material arrangements of a place, is environmentally, spatially, and culturally contingent. Specific dishes are commonly associated with specific celebrations, while certain foods are embedded with social significance. In M'Bour, lettuce is identified as a "city food", and is disparaged by people in rural areas as "food for sheep". Lettuce is a common feature of urban gardens in M'Bour; some cultivators grow only lettuce, while other cultivators grow it in association with other plants. Lettuce, of which there are several varieties, is easier to grow in the cool, dry season. It is often served in combination with fried or boiled potatoes, fresh tomatoes, onions, fried or grilled fish or grilled meat, a mustard-vinaigrette dressing, and French bread. Lettuce is in higher demand when there is plenty of fish in the markets. If fish are scarce, as happens often, people do not buy as much lettuce. As part of a dish that is unlikely to be served in rural areas, lettuce helps to constitute meals that have a specific cultural significance, or intelligibility, in the city. For example, it is in high demand around several holidays, including Christmas Eve and New Year's Eve, because it helps to signify the special occasion. Farmers plan their planting schedule to respond to the increased demand and are able to charge a higher price than usual.

Mint is another plant that is commonly grown by urban cultivators. Several varieties are grown, and cultivators tend to remark on and favour those varieties that are especially fragrant. Mint is almost requisite for the daily (or twice daily) and highly valued social ritual of brewing tea, in which friends and neighbours gather in public or private spaces for several hours to discuss politics, sports, and any number of other subjects. The material arrangement of the tea ritual (i.e. tea, mint, brewing pot, charcoal, stove, sugar and teacups) and the practice of the tea ritual (i.e. brewing, pouring, and drinking) are co-constitutive in that material entities help constitute the practice "by being pervasively involved…at particular times and places" (Schatzki, 2010, p. 140). Likewise, the ways in which the tea ritual is carried out is in a co-constitutive relationship with a particular way of gathering socially. The arrangement of the tea brewing and drinking materials serves as a focal point, and thus "holds" a group of people together for a time.

Without the tea ritual, would such daily gathering occur? Indeed, the tea culture is so pervasive in daily life and among Senegalese of all ages and ethnicities, it might be reasonable to suggest that this practice alone has enormous value in thwarting the social isolation and anonymity that are sometimes assumed to be a natural outcome of urbanization. Although tea drinking is not specifically an urban activity, it takes on an urban significance when practised among people who may be new to each other. Furthermore, cities, more so than rural environments, are sites of innovation and novelty. A novel mint variety, or the mint produced with the innovative hydroponic micro-gardening method, was regarded with enthusiasm and added to the social cachet of the mint.

The role of urban cultivators in the tea ritual is to provide a constant source of mint, and as often as they sell it around town, they also give it away to friends and neighbours, which has the effect of increasing and maintaining community cohesion. Giving away a portion of one's production, incidentally, was requisite and performed by every cultivator in the study. Many cultivators, because they bring in little income, used the gardens to satisfy cultural responsibilities. All Senegalese are expected to give away a portion of their income, a practice performed by both Christians and Muslims. In the absence of disposable income, gardens served an important social function, a reminder of Karl Polanyi's insight that economic activity safeguards social standing, social claims, and social assets (1944).

Composition of Urban Gardens

The particular physical–chemical composition of cultivated spaces produces a number of social interactions that are particular to urban cultivated spaces. First, a healthy garden visible from the road often leads to conversations between the cultivator and passersby. One woman, a recent arrival from the Casamance in southern Senegal, who knew relatively few people in her neighbourhood, cultivated a large garden of eggplant, peppers, onions, tomatoes, bananas, and okra. In the space of 90 min working in her garden, she was greeted by many passersby and engaged in two extended conversations with people who initially stopped to remark on the garden. Furthermore, this woman became familiar with people in at least two other households in the neighbourhood based on their gardening activities. In one instance, she bought a fruit tree, and in the other instance, she asked for pest management advice.

Secondly, a common practice for some entrepreneurial market women is to seek out and buy directly from urban cultivators. These women go from cultivated space to cultivated space, carrying an empty washtub that they use to carry away produce, and negotiate a wholesale price with cultivators. Though cultivators could earn more by selling their own produce directly to consumers, they often prefer to sell it to these *bana-bana*, who are more familiar with the going market prices, as well as market practices and processes.

Thus, it is the specific qualities of gardens, inherent to gardens, that provoke interaction. This is an important point of Schatzki's ontology that distinguishes it from other ontologies that perceive "the social" to be fundamentally separated from "the material". People's lives hang together in particular ways because of the particular social qualities of the garden.

Lastly, cultivators often sold produce to neighbours, who were grateful for the convenience and quality of neighbourhood gardens. A common theme to emerge was that many women disliked the expense and time required to travel to the single market in the centre of town. Furthermore, many women, both cultivators and consumers, noted that they did not trust what they bought in the market, or thought it was of lesser quality than what they could buy from neighbourhood cultivators or grow themselves. Schatzki (2010) notes that "the bearing of materiality on human activity and social life lies not just in the constitutive and causal relations that hold between individual actors and particular objects, but also in how material entities are connected with temporally and spatially extended manifolds of organized human actions" (p. 135). In M'Bour, the existence of a single market is a burden for many women, which turns out to be advantageous for urban cultivators.

Biological and Physical Flows

This section discusses the ways in which matter-energy and various organisms flow through the material-practice arrangements of urban cultivation and affect social life. Pests such as termites, ants, birds and whitefly "pass through" the material-practice arrangements and cause urban cultivators to institute certain practices or to suffer various losses. Very often, these flows are mediated by practice, while at other times, they pass through and affect the material-practice arrangement but are not managed.

The decisions about which flows to manage and which to ignore are affected by several variables, including knowledge of biological processes and interactions and prioritization of tasks given time constraints and other responsibilities. Ensuring the flow of water, for example, is the single most critical task, and also the most arduous and time-consuming. Most cultivators pulled water from wells, poured it into a basin, and then hand-watered with watering cans. Because of the poor water-holding capacity of soils, cultivators watered at least once a day, and often twice a day. Some cultivators referred to the practice of urban cultivation as *rosaay*, which is the Wolof adaptation of the French word *arroser* ("to water"). That the whole practice of urban cultivation is referred to as "watering" suggests that most of a cultivator's time and energy is spent watering.

Because a critical dimension of the material-practice arrangement of urban cultivation in M'Bour is constituted by a practice that requires a considerable amount of strength, urban cultivation is primarily identified as men's work. There was only one woman in the study who identified as the primary manager of her garden plot, and she had access to a pump and was able to water quickly. Another woman who had cultivated a plot of land in the past and in association with other women was reluctant to cultivate that same plot by herself because of the watering requirements. Micro-gardening, on the other hand, was performed mostly by women.

The task of managing water flow sometimes affected interpersonal relationships. Several of the research participants were married to each other. In all but one of these cases, men were identified as the primary manager of the garden and performed most of the watering tasks. However, women helped to water from time to time. In some cases, men noted their appreciation when their wives voluntarily take this task on. One man said that his wife could not usually help with the work of watering, but that she sometimes does it when he is out working on his occasional day-job of building bricks. He noted that she has asthma and that she should not be doing the work because it is difficult for her, but that when she does it, he regards it as an act of compassion towards him. Another man said that the work of caring for the garden brings him and his wife together, and that when she cares for it in his absence, it makes him happy. Most research participants noted the cultural imperative of husbands and wives working together in harmony and working out disagreements through discussion to set an example for the children. The garden represented a physical space where "working together" took place daily.

An observation of how practice mediates biological and physical flows, in conjunction with an understanding of the underlying ideas behind certain practices, points towards potential areas for agricultural extension education. Urban cultivators had little to no access to extension services and most information and knowledge exchange was limited to a small geographic area, among a small group of farmers. There were a few instances in which a better understanding of how to manage flows would have resulted in increased yield. For example, one cultivator had to uproot and destroy a whole plot of *bissap* (*Hibiscus sabdariffa*) because it was afflicted with a variety of fungal leaf rust, which often occurs because of over-wet conditions. By simply avoiding wetting the leaves when watering, he might have prevented such a loss and the extra labour it entailed. Another cultivator noticed how the addition of compost reduces the incidence of termite damage, but had no outlet to pass this information along to other farmers.

CONCLUSIONS

> [U]nless the complex, dynamic, highly improvising and generative actions of the urban poor are acknowledged and explored, it is foolish to come to conclusions about what is going on in a city, or what may or may not work, either from an insurrectionary perspective or from a "policy-fix" approach. (Pieterse, 2013, p. 3)

Jennifer Robinson (2006) observes, "Western modernity…is only one moment in the astonishingly diverse circulations and productions of new things and new ways of being that are assembled in distinctive ways to produce different kinds of places and ways of understanding them" (p. 20). In African cities, economic activities are improvisational, decentralized, flexible, and responsive to the highly dynamic environment of the city. This chapter has sought to demonstrate the ways in which seemingly "backwards" livelihoods are composed from fields of practice in combination with the material dimensions of the urban environment. They are enacted in relation to social and spatial position, dynamic urban processes, and normative and material concerns. The widespread practice of urban cultivation serves as an entry point into the "vernacular economy" to discover how people, through their interactions with each other and the city, are working to sustain themselves and create meaningful lives. Through livelihood, people are negotiating city and civic environments to deliberately make lives that include pleasure, innovation, and good relationships and social standing. Such an understanding of city life implicitly argues for an approach to urban planning and development that does not dismiss livelihoods because they are not indicative of modern form. As Robinson (2006) notes, "For urban studies to contribute to development strategies for ordinary cities, it will need to offer analyses that have a purchase on the diversity of economic activities, political interests and the range of needs of citizens" (p. 116).

Recent efforts to retool planning education and practice in Africa note the importance of engaging with informality differently (Odendaal, 2012). Future research and policy engagements must address the power relationships and biases embedded in informality discourse and better acknowledge how that discourse might serve to legitimate the unjust exercises of control over urban space. Furthermore, the underlying implications of informality, i.e. that these are economic activities without form, must be vigorously contested. The ontological claim to the city that is enabled by this discourse rests, in part, on the assumption that some economic activities threaten civic order because of their chaotic nature. This assumption must be challenged through research that seeks to find the organizing logic behind seemingly chaotic and spontaneous economic practices.

Practice theory offers conceptual tools that ground economic analysis in place and thus provides an opportunity to move away from conventional economic thinking that underlies the persecution of people in their efforts to make a life in the city. In coming years, it is likely that people living in growing secondary cities will need to continue to leverage all kinds of social relationships and practices to navigate uncertainty and sustain their households, and not just those that fall into narrow, externally constructed economic categories. Schatzki (2010) tells us, "Explanations of social phenomena should be sought in the specifics of pertinent practice-arrangement nexuses and the events that happen to them" (p. 146). Urban cultivation exists as a constitutive part of the city because it makes sense to the people who practise and benefit from it. Such an understanding of why people do the things they do, and a deliberate valuation of those things, offers alternative direction for urban research, planning, and development based on local imaginaries of well-being and meaning. The approach suggested in this chapter deliberately grounds livelihood in place by focusing on how the city's materiality is assembled through practice (and vice versa) and privileges the daily experiences and perspectives of urban citizens. However, for such an approach to gain legitimacy, urban planners and decision makers must reject parochial Western notions of modernity and urbanity that have obscured alternative urban imaginaries. Without valorizing the notion that development proceeds differently in different places, the prevailing approach to management of urban space will remain one that alternates between neglect and oppression, and that facilitates growing inequality and injustice.

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