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DIY Verticality: The Politics of Materiality in Luanda

CLAUDIA GASTROW
University of Johannesburg

Abstract

A growing body of work has highlighted the centrality of verticality to the making of contemporary urbanism, pushing scholars to begin conceptualising inequality, politics, and planning as multi-scalar in nature. This paper builds off these interventions to argue that verticality should be understood as a fragile and unstable achievement, a fragility heightened when the oft-taken for granted workings of the state and private sector, which enable the appearance of verticality as a seamless achievement, fail. Drawing on research conducted in Luanda, Angola, this paper explores how residents, planners, and real estate developers discuss the difficulties of maintaining the experience, materiality, and imaginations of verticality as embodied in the architectural form of the high-rise. The paper shows that in the context of ongoing urban decay and the seeming abnegation of most state responsibility for provision, urban residents are forced to engage in the production of a DIY verticality—constantly patching and repairing buildings to keep them viable, actions which in turn pull them into relationships of privatized belonging with the city. As such, the paper argues that the material politics of the high-rise in Luanda both highlights the fragility at the heart of verticality as well as the shifting forms of privatized belonging immanent to this fragility. [Angola; Materiality; Verticality; High-rise; Urban]

Introduction

Nelson was concerned. In his forties and currently renting an apartment on the tenth floor of a twelve-story building in Luanda's downtown, he was worried that if oil prices didn't go up again, the recently built high-rises of the oil boom would face similar disintegration to the colonial-era one that he lived in. In his building, there was no working elevator. On a daily basis he walked the multiple stairs upwards, passing the interlaced electricity wires that wound up the stairwell, each resident's personal response to the building's infrastructural challenges. His blessing had long been a beautiful view, but recently, a seventeen-story building was being constructed in front of his, threatening to block this daily comfort. Nevertheless, in his mind, this new construction and others similar to it were in danger of meeting the same fate as his residence. In 2015, after a decade-long oil-boom, Luanda, Angola's capital, was facing the uncertainties of a bust. While many were concerned about falling salaries and rising prices, Nelson stared anxiously at the buildings looming above us as we sipped beer in a restaurant overlooking the bay. If the oil crash continued, he explained, the buildings

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"will fall into decay." Nelson worked in an eighteen-story high-rise, with his company's offices occupying the thirteenth to the eighteenth floors. Completed in 2009, the building had breath-taking views of Luanda, a luxury that owed its longevity to a large maintenance team that was constantly on call to fix things. If the money went, this would end, and, Nelson argued, everything would begin to collapse.

Nelson's concerns about high-rise construction highlighted the extent to which verticality is a process of everyday work steeped in the possibilities and limitations of materiality. As Graham (2008) has shown, feats of verticality, whether in the form of skyscrapers, drones, mining or sewage, are highly reliant on not only technological breakthroughs, but also the wealth and routinized state practices that maintain these. Rather than an easy achievement, verticality is a fragile accomplishment, its symbolism and experience reliant on a series of human-material interactions that can easily go awry. High-rises and skyscrapers not only render visible material socio-economic inequalities through scale, but produce and reproduce them through the very material connections and objects required to enjoy scale. Ultimately, this paper suggests, these buildings embody a material world in which political incorporation into the city has to be individually paid for, making the material and symbolic connection to state services and incorporation a privatized affair even often in the absence of an official policy of privatization or austerity.

Rather than an easy achievement, verticality is a fragile accomplishment

In this paper, I explore the politics of urban belonging, that is the means and processes through which people are incorporated into the city, through the fragility of the high-rise in Luanda, Angola. I argue that buildings have transformed political and social rights into privatized economic concerns, due to Luanda being characterized by what I refer to as "DIY urbanism," one in which the preservation of everyday life and material cohesion depends on individualized and localized attempts to patch together crumbling materialities in lieu of state or significant larger collective intervention. The paper draws on several years of research experience in Luanda beginning in 2008 up to the present. While verticality and high-rises were not the centerpieces of my research, which primarily focused on Luanda's post-conflict construction boom, it became impossible to avoid these topics as they invaded multiple interactions, experiences, and observations. This article therefore builds off interviews with residents of the city's multiple high-rises, planners, and real estate agents, as well as my own experience of living in and visiting people in the high-rises. In order to track the mutual transformation of political rights into economic circumstances, I understand the high-rise and its constituent parts as mediators in the Latourian sense, in as much as their objecthood and materialities transform a series of actions and processes, thereby generating new relationships and possibilities rather than merely conducting the intentionality of another agent (Latour 2007). Buildings are not static objects, but "flows that are always in a state of flux as they strive constantly to fend off decay" (Graham and Thrift 2007). As such, the high-rise is both one object, but also constituted by multiple material

objects (bricks, pipes, air-conditioners) whose interactions with humans and each other enable us to track the quotidian and delicate networks of power and relationality that run through the city.

Beginning this paper with a brief exploration of the building of the new post-conflict Luanda, I explore the ways with which verticality has been engaged in contemporary studies of African cities, highlighting the tendency to sideline its aboveground instantiations. The paper then explores "DIY verticality" in Luanda through the lens of its colonial-era high-rises, emphasizing an existing history of verticality and fragile materiality that has characterized urban belonging. Following this, it discusses new experiments in vertical housing, both private and state-subsidized, showing how financial means produce distinctions in political incorporation, even as the DIY nature of Luanda's urbanism undoes imaginations of the realization of urban fantasies. By emphasizing the need to constantly patch verticality to ensure its survival, Luanda highlights its fragility. This fragility and the means by which it is managed also shifts attention to the material production of inequality and the scalar and gradated character of political inclusion. Luanda's residents enter into negotiations with the unstable, often lacking, and distributed presence of the state through buildings' transformation of this presence (or absence). Materiality thereby transforms political incorporation into a financial question, meaning that belonging, income, and materiality become imbricated in the attempt to live in the city's varied high-rises. Luanda's fragile verticality highlights how a privatized political belonging is a product not only of state inaction, but of the crumbling and unpredictable materialities that make up the built environment of cities around the globe.

Verticality and African Urban Fantasies

Between 2003 and 2014, Luanda experienced an oil-buoyed construction frenzy. Shortly following the end of the country's twenty-seven-year civil war in 2002, the Angolan state began to dedicate itself to what became known as "national reconstruction," a patchwork of projects aimed at restoring basic infrastructure and investing in real estate so as to both kick-start the economy outside of the oil sector and provide "dignified housing" to Angolans (Croese 2011, Soares de Oliveira 2015).[1] These state investments, combined with the rapid rise in the price of oil in international markets, led to an inpouring of private investors hoping to exploit the oil boom. Luanda, the flagship of reconstruction, suddenly became a center of real estate speculation. Land was bought and buildings demolished at such a rate that the city itself became unpredictable. Whole neighborhoods disappeared after being demolished for new investments, their residents either discarded or occasionally relocated to vast state rehousing zones on the urban periphery. By 2011, in the midst of a glut of petrodollars, Luanda was ranked the

most expensive city in world for expatriates, beating out New York and Tokyo for this dubious honor (Tutton 2011). This feast was accompanied by the "luxification" (Graham 2008) of the city's skies. Glass-covered, air-conditioned towers stamped out the modernist apartment blocks of the late colonial period. New state-subsidized developments on the urban edge, both public and private, built upwards. Verticality was, as one planner explained to me, a modern "Singaporean" solution to the city's infrastructural and housing needs.

While city-building during Luanda's oil-boom appeared magical, it was not unique in its material aspirations. Since the early 2000s, a new urban planning trend has taken hold in countries as discrepant as Rwanda, Kenya, South Africa, and Nigeria, namely the emergence of what Murray (2015: 92) refers to as "city doubles," the construction of specific buildings or sometimes entirely new precincts or towns that "are mirror oppositions of existing urban landscapes." These investments often presume a middle-class or wealthy occupant, and have, on paper and in practice, increasingly taken on the form of high-rises, drawing heavily from images of Asian and Middle-Eastern urbanism to project a new African future. These plans have infamously been referred to as "African urban fantasies" (Watson 2013) both to describe the fantastical architectural renderings through which they have been expressed, but also as a critique of their investments in forms of urbanism which not only exclude the majority of city dwellers, but presume the possibility of escaping the very conditions that led to the embrace of such plans in the first place (De Boeck 2011, Murray 2015).

Verticality is central to the visual fantasies of new African urbanisms

Verticality is central to the visual fantasies of new African urbanisms, which fuse artistic utopias with promises of technological and economic development, rendering them part of the international "technological sublime" that has driven the construction of increasingly audacious skyscrapers across the world (Graham 2008: 162). Online portrayals of Lagos's Eko Atlantic promised soaring high-rises (Figure 1); bird's-eye-view films that provided sweeping visions of state reconstruction projects as part of the ruling MPLA's (Popular Movement for the Liberation of Angola) 2012 election campaign; and growing competition to erect Africa's tallest buildings, in the form of the Nile Tower by Zara Hadid in Egypt and the Palm Exotica in Kenya (Figure 2)—all these examples anchor modernity and prosperity in the achievement of verticality and especially the object of the high-rise. Although it may have begun as an American architecture, the high-rise has cemented its image far beyond its origins. Today, it is as much if not more associated with "the rise of global urban Asia and the Middle East" (Harris 2015: 605), and more generally with a generic aesthetic of world-classness than with turn-of-the-century United States. In fact, recent studies of new city building in Africa explicitly suggest that the high-rise model is inspired by Asian urbanisms (Watson 2013). The funding sources and designers of many of these projects confirm this (Cardoso 2017, Van Noorloos and Leung 2017). In Luanda, not only were many of the large-scale state housing

Figure 1. Author screenshot of Eko Atlantic image (Eko Atlantic 2019). [This figure appears in color in the online issue.]

projects funded by Chinese-backed oil-credit lines, but the consultants and designers often worked for companies such as Dar al Handasah and Surbana, from Lebanon and Singapore respectively.

Despite this spectacle of verticality having gripped contemporary urban planning and architecture, verticality has generally not been extensively explored in studies of African cities, and when it has, the focus has tended to be on below-ground instantiations and practices of verticality. While recognising the significance of verticality in shaping urban imaginations, for instance, De Boeck and Baloji (2016) nevertheless argue that Kinshasa's residents have lost faith in aboveground utopian promises of verticality such as high-rises or mountains. Instead, they argue, "urban denizens have turned to opposite topographical figures: the sinking ground and the hole" (De Boeck and Baloji 2016: 13). These latter features, they claim, produce a subterranean verticality that sutures a disparate Kinshasa together.

The focus on the underneath is rooted in an orientation to the African urban that has encouraged researchers to focus on the invisible rather than the material (De Boeck and Plissart 2004, Simone 2004). In the face of deteriorating material conditions, poor service delivery, and unreliable institutions, scholars of African cities have generally been forced to seek out the informal and the ephemeral, the "everyday urbanisms," to explain how urban life has been sustained (Simone and Pieterson 2017). While not cancelling out the possibility of looking at verticality, this avoidance of the material means that the utopian ideals and technological capacities that aboveground verticality tends to embody are generally not centered in analyses.

Figure 2. Author screenshot of artist rendering of planned Palm Exotica in Kenya. If completed, it will be the tallest skyscraper in Africa (Anyango 2018). [This figure appears in color in the online issue.]

Despite their crumbling materialities, however, various scales and iterations of verticality inform experiences of African cities. In Luanda, verticality is not only produced by the iconic spectacle of the multiple four- to ten-story modernist apartment blocks that characterize the old colonial center, but is also designed in the heart of the city. The city's original design acknowledges the symbolic and experiential significance of verticality. The colonial center of the city was historically divided between the *cidade alta* (high city) and the *cidade baixa* (low city). The *cidade alta* was where religious and administrative offices were located, and was literally physically constructed up on a hill, while the *baixa* was the downtown area of commerce and "worldly" pursuits. These divisions and labels still exist, with the *cidade alta* still being the location of the Presidential Palace. As with other cities, Luandans take advantage of the aesthetic, practical, and leisure options offered by verticality. For years, the Goethe Institute organised a weekly rooftop cinema. Many people searching for homes and economic possibilities constructed houses and restaurants on rooftops. The city's colonial-era fort is perched on a hill

overlooking the bay, enabling sweeping views. Drones and Google Maps have also enabled Luandans to navigate their city in new ways. There are thus multiple material embodiments and scales of vertical experience that constitute the city (Figure 3).

Equally, high-rises and other forms of verticality have played a prominent role in post-independence literature and arts, enabling explorations of the meanings of modernity, nationalism, African identity, and inequality. *Quem me dera ser onda* (2005 [1982]), a widely read short story by Angolan author Manuel Rui dealing with the early days of independence, tackles the ambiguities about what it means to be an African urban subject and takes up the contradictions of accommodating practices historically marginalized as "rural" by narrating a tale about a man who cares for a pig in his apartment block. One of the most well-known scenes involves a dispute over whether the pig may enter the building's elevator or not. The high-rise, as the material remains of the Portuguese "civilizing" and modernization project, enables the questioning of what constitutes the modern African urbanite. More recently, verticality has stood at the center of *Barroco Tropical* (2009) and *A Vida no Ceu* (2013), both by Angolan author José Eduardo Agualusa. *Barroco Tropical* builds much of its plot around the high-rise remains of an imagined post-oil boom Luanda, while *A Vida no Ceu* is set in a post-apocalyptic future in which the world's surface is covered with water and humans now live in air balloons. Both novels address questions of inequality, global power relations, and exploitation through the trope of verticality. In *A Vida no Ceu*, for instance, the larger, more luxurious balloons are those that are named after European and American cities, while the Luanda conglomerate of air balloons is easily tossed and turned by storms. Incorporating

Figure 3. View of old and new Luanda, with the Cuca Building in the background. 2011. Photo provided to author by Luis Pedro Fonseca. [This figure appears in color in the online issue.]

a more general critique of wealth and verticality, Agualusa shows that despite, or perhaps because of their privileges, life in the Paris balloons is unequal and vicious, while Luanda's inhabitants engage in seemingly more humane life activities such as reading. In *Barroco Tropical* (2009), the principal high-rise in which the story is set is characterised by a securatized elevator that only allows the wealthy to access the higher floors, while the poor and criminal live in the basements. Similarly, Ondjaki builds the plot of his recent novel *Os Transparentes* (2012) around the inhabitants of the crumbling colonial-era high-rises of Luanda's city center, while in his work *Icarus 13*, prominent Angolan artist Kiluanji Kia Henda uses existing objects and buildings across Angola to stage a celebration of an imagined Angolan expedition to outer space (Goff and Kia Henda 2019).

African writers and artists have clearly found inspiration in imagining the vertical, and more recently, anthropologists of African cities have begun to respond by recentering the built environment and materiality as key aspects of urban experience (Hoffman 2017, Travolla and Travolla 2015). This paper builds on these interventions by using Luanda's high-rises to explicitly insert the political materiality of verticality into debates not only on African urbanisms, but studies of verticality in general. That there is a politics to verticality is well known. Graham (2008) has shown how, especially in the form of skyscrapers and high-rises, verticality is a product of global capitalist accumulation in which elites increasingly build up to separate themselves from the rest of society. Weizmann (2007) has explored the use of vertical technologies in Israel/Palestine in surveillance and the militarization of the skies. However, Luanda's buildings push the question of vertical politics in a different direction, one situated in work on the vertical, repair, and inequality. Existing work on vertical living across the globe has highlighted its reliance on often ignored but ongoing practices of repair and maintenance (Graham and Thift 2007, Strebel 2011). While the greater the wealth, the more these practices are hidden, in vertical housing for the poor, they have lain at the center of arguments over the viability of this housing (Jacobs, et. al. 2007, Arrigoitia 2014, Laszczkowski 2015). Luanda's high-rises therefore find commonality with debates about breakdown and repair in vertical living, but to an extreme. Lacking any substantive state or private-sector commitment to maintenance, preserving these buildings becomes an extremely individualized affair. The difficulty of achieving and maintaining verticality is lived everyday through calls to electricians to snake wires up stairwells; plumbers to unblock drains; the installation of private water pumps; and concerns over fissures and leaks. The focus on the ephemeral, patching, repair, maintenance, and provisionality, which had previously been used to sideline the material in African urbanism, in fact becomes that which enables African cities to shed new light on verticality and its political consequences, as the buildings transform political negligence and inequalities in wealth into privatized practices of belonging.

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While blame for the city's material shortcomings are often (and justly) blamed on the state, a lack of human resources, and poverty, buildings as mediators transform those failures into particular kinds of material political associations and divisions. The ability to compensate for material shortcomings depends on personal wealth. The very material failings of the buildings and the city thereby not only produce a material inequality, but also make connection and enjoying the benefits of the urban a result of privatized provisional financial capacities. If, as Ong (2006) has suggested, the rights of citizenship have increasingly become determined by the assignation of economic value rather than formal political status, in Luanda, belonging—in the form of social rights and even practices of collective association—is transformed and produced by buildings. As Luandans seek to bridge and patch the shortcomings of their homes, their capacities to do so are limited by personal wealth, ensuring that only those with individual financial means or the capacity to mobilize collective arrangements to control material decline can enjoy something close to visions of the "good life" embodied in contemporary urban fantasies. Luanda's DIY verticality, then, sheds light not only the fragility of the vertical, but also on the material economization of the political that this fragility entails.

DIY Urbanism and Privatized Urban Belonging

Dona Lili lives in one of the apartment blocks that make up Luanda's Kinaxixe neighborhood. She and her now ex-husband moved into the building in 1976, shortly after Angola's independence in November 1975. At the time, what was referred to as the *cidade cimento* (cement city), the formally-planned colonial core of the city, had been abandoned by Portuguese settlers who fled Angola in the months before independence. The flight left thousands of properties in the city standing empty. People such as Dona Lili and her husband, who, as black Angolans, had previously been more or less confined to the *musseques* or "slums," gradually began occupying the urban high-rises that had been sprouting since the 1950s due to a boom in the international price of coffee and the desperate need to solve a burgeoning housing crisis.

From the 1940s onwards, Luanda's population rapidly increased as the Portuguese colonial state encouraged white immigration to Angola and industrialization drew people to the city. Both state and private sources began to heavily invest in construction and real estate, leading to a rapid expansion of the area of the city (Martins 2000). The Portuguese state attempted to use this flurry of construction to represent its presence in Africa as a form of "modernizing colonialism" (Salvador and Rodrigues 2012: 409), making investments not only in real estate but in the construction of schools, cinemas, and markets. Beginning in the 1950s, younger architects largely trained at Porto's architecture school embraced the modernist movement. In both their public and private

briefs, they sought to emulate Brazilian modernism and the principles of the Athens Charter, adjusting these to what they saw as the conditions of the tropics. The tallest building from this era, the BPC Building, is 72 meters high and consists of 18 floors; however, most were between four and ten stories. The architects believed their designs broke with the more traditional architectures promoted by the fascist colonial state, and thus saw the high-rises as a sign of "rebellion" (Jenkins 2009: 9). Modernism in Luanda was thus as equally invested in the project of a utopian future as elsewhere in the world. However, this utopianism was steeped in the inequalities and prejudices of colonial rule. When building social housing for Africans, the colonial state generally insisted that they be ground-level constructions (Milheiro 2013). The occupation of the colonial-era high-rises entailed the reconfiguration of verticality, materiality, and race, opening up a new post-colonial future.

Dona Lili and her husband were amongst the thousands who sought to create new possibilities for themselves and claim equal footing in their own country by asserting their right to a space in the material comfort of the *cidade*. After looking at several options, Dona Lili came across her home in a well-located six-story block. The building had glass doors at the entrance, a working elevator, and intercoms so that guests could buzz up to those they wished to visit. Starting at the top of the block, they peered into apartments on each floor to see if they were occupied. Finally, they came across the apartment where Dona Lili now lives. On the first floor it had a sizable veranda and, after breaking into the residence through a small window, she fell in love with the kitchen.[2] The keys for the residences had been left with the building's caretaker when the Portuguese building manager had fled the country. It was with him, then, that they negotiated moving into the apartment and paying rent. Shortly thereafter, the ruling MPLA nationalized the abandoned properties and set fixed rents.

Although state companies and institutions were meant to maintain the buildings, this did not take place. Equally, urban services such as water and electricity began to falter in the city center. Angola's civil war, possibly the "hottest" African proxy war of the Cold War, tore the country apart. The new state could not cope with the multiple pressures. Whether through intention, incapacity, or shortages, institutions found themselves unable to attend to the materialities of the high-rises, forcing occupants to negotiate directly with the buildings. As the years passed, Dona Lili's building began to deteriorate along with its neighbors. At some point the intercoms and buzzers ceased to work. The glass doors broke and then were removed by the residents. The elevator broke down. The workers who came to fix it stole its motor (as Dona Lili believed, to sell it on the parallel market). Suddenly, the lower floors became more desirable than the upper ones, as the difficulties of living vertically without the accompanying technologies to facilitate it became apparent. Those living on the higher levels of the building did not want to carry their garbage up and down the stairs once the garbage chute and

elevators no longer worked, and they began to throw it down the elevator shaft. Those whose plumbing had stopped up also used the elevator shaft as a disposal for their sewerage. Expectedly, the result was toxic. At some point in the 1980s, Dona Lili and some other residents hired a company to clean the shaft. Her husband and other men in the building welded shut the elevator shaft doors. The doors remain sealed to this day.

Dona Lili's story is a common one in Luanda. The tale of the city's historical city center and immediate areas, largely defined by their modernist apartment blocks, is one of emergence from the 1940s until independence in November 1975, and then gradual decline and disintegration between 1975 and the contemporary moment. Already in the 1980s and 1990s, people began to describe the process of breakdown as the *musseequização* of the city. *Musseque*, the local word for "slum," carried heavy insinuations not only of poverty and destitution, but also of material and aesthetic deprivation in the form of poor infrastructure and "provisional" materials (Monteiro 1973, Moorman 2008, Duarte de Carvalho 2008). The mobilization of the term thus strongly indexed the material decline of the colonial high-rises. In the contemporary moment, the perceived breakdown of the high-rises has gone so far that one of Angola's most well-known hip-hop performers, MCK, released a track entitled "Vertical Ghettos" to describe the city center's colonial-era high-rises (MCK 2014).

This process of state withdrawal or incapacity catalyzed what, I argue, is a "DIY verticality" built on individualized and localized attempts to patch together the crumbling buildings in lieu of state or significant larger collective intervention. Luanda is more accurately characterized by what Travolla and Travolla (2015) refer to as a "back-up culture" or what Mcfarlane (2010) calls a "self-service city." These terms describe cities in which the lack of working infrastructure means that people from all socioeconomic backgrounds must improvise patchwork infrastructural networks in order to produce the desired effects of infrastructural well-being. In the process, connection to the city becomes marked less by relationships to the state and more by personal wealth. While maintenance is an integral part of maintaining verticality across the world, it tends to fall into the background of everyday awareness in places where reliable institutions regulate and ensure repair. In many parts of the world, building caretakers undertake regular inspections and upkeep of buildings; levies are charged; and derelict buildings come under local administration scrutiny. Most of these mechanisms have long ceased to exist in much of Luanda. Luanda and other cities like it shed light on what happens when verticality becomes an exercise in individualized and, with that, privatized, unofficial accommodations. The formal appearance of high-rises masks the fact that their materiality is enabled by and productive of informal practices and unofficial infrastructural connections and solutions. These are equally entangled with existing socioeconomic and political conditions. While institutions and access to infrastructure function, the fragility that lies at the heart of verticality remains hidden. However, the materiality of Luanda's high-rises, which

lack these regularities, broaches questions of the fragility, informality, and difficulty of verticality.

socioeconomic distinction was marked by who could mobilize resources to patch

Given the failure of institutions to intervene in maintenance or to provide reliable access to water and electricity, socioeconomic distinction was marked by who could mobilize resources to patch better than others. In most musseques, those who could afford it had latrines, water-tanks, and generators. Where there was access to electricity and water, many people also established illegal connections. Across the historical city center, verandas and buildings were cluttered with plastic water tanks and generators kept in cages to prevent theft. Those living in gated communities and securitized high-rises relied on large shared generators, often kept in buildings a significant distance from the residences to prevent noise pollution. There were pumps to force water up multiple levels, and multiple-stage filters to clean it before it came out taps. Sometimes the solutions were not particularly sophisticated. Leila, a woman in her early thirties, described to me how her father, after contending with a broken sewage pipe that spewed the building's collective waste into their ground-floor apartment, had inserted a new pipe that let the sewage flow onto the street.

It is these personalized and privatized networks, negotiated by individualized solutions, that have become one of the predominant means through which urban belonging is experienced and made in post-independence Luanda. The decaying built environment is the material iteration of the implosion of public authority in the quotidian life of African cities (Mbembe and Roitman 1995). While demands for service delivery and maintenance of infrastructures, as well as desires for efficient bureaucracies, remain in place, the reality is that the dilapidated built environment is a product of a larger abnegation of responsibility by the state and the inadequacy and often unofficial privatization of its services. Mbembe and Roitman (1995: 343) have termed this economy a "do-it-yourself bureaucracy"—an economy in which citizens, in order to access what should be a public service, pay for every application, stamp, and authorization and bring their own surgical gloves, medical implements, and medications to the hospitals. In this scenario, relationships to the state become privatized as citizens pay the state for services that should in theory be public goods. Generalized disrepair, as Laszczkowski (2015:140) has argued, is also a means through which the "destructive agency of the state" is distributed "across time and amongst hosts of material actants" so as to render it difficult to pin blame on a single entity or persons. This distribution of responsibility in the form of disrepair characterize Luanda's DIY verticality. Many (if not most) of the colonial-era high-rises in Luanda are owned by state entities, and services such as water, sanitation, and electricity are presided over by state-owned companies. However, these services constantly cut or fail, affecting the buildings whose pumps suddenly push air up pipes instead of water; whose elevators get stuck; or whose plugs surge and electrical appliances break. Unable to locate a single source for the generalized dilapidation of the

city, and finding it necessary to deal with these material implosions that threaten the viability of verticality, residents of high-rises are forced, like those paying for bureaucracies, to find personal solutions to link them to the city's (in theory) public services. Linkage to the materialities of the state therefore becomes a privatized affair contingent on income and opportunity. Privatized material negotiations become the primary means to realize what are imagined to be the material benefits of citizenship.

Such experiences and practices of privatized belonging were evident in the attempts to patch buildings and in the generation of forced interactions with neighbors to try and solve the collective problem of the apartment block. Most buildings tried, with mixed success, to create a residents' committee (*comissões de moradores*) to attend to building maintenance. A common complaint from people living in apartment blocks was that mobilizing people to collectively care for the buildings was extremely difficult, with residents generally blaming the deterioration of collective spaces in the buildings on a supposed lack of *civismo* (civility). When I asked Leila if she would prefer to live in a house or an apartment, she insisted that she preferred a house because apartments created too much trouble. Not only did one have to constantly battle crumbling vertical infrastructures that led to problems such as water infiltrations from tanks on the roof, but verticality required coordinating between other residents and the building, something many people found impossible. In one of the apartment blocks in which I lived during my time in Luanda, a seven-story high-rise in the neighborhood of Maianga, we were presented with exactly such a conundrum regarding the negotiation between people and building. We had a working elevator, a rarity in older Luanda buildings. However, in order to ensure its upkeep, we (as in many places in the world) had to pay a monthly levy. Those who paid had access to a key which, when inserted, called the elevator, allowing the resident to enjoy the modernity of quick mobility. Almost every month, however, a significant number of people refused to pay the levy. This led to the key constantly being changed so as to prevent non-payers from accessing the elevator. At some point, tired of changing keys every month, I gave up on the elevator and began to walk the seven floors to my apartment.

The awareness of having to battle with the verticality and material impositions of breakdown even shaped people's choices of residence. Potential incorporation into services and urban rights were heavily influenced by where a person was located in the stacked apartments. Those higher up in the building battled more. As a result, if there were no assurances that the difficulties of forcing services and people up multiple stories could be achieved, clients did not want to live in the upper levels. As a real estate agent explained to me when I asked about customer preferences:

> In the case of housing, people…um, clients, look a lot at electricity, water. If they are apartments then at least until the third floor, they don't want to climb lots of stairs because there are still buildings with a

> shortage of elevators or elevators that don't work, so people don't want to climb such a distance up the stairs. If there is no water, then they have to carry water from the bottom to the top. It's tiring, so these are the minimal aspects [that clients focus on.] (Paulo, interview, April 15, 2011)

Even for those living on the same floor, however, individual wealth continued to produce heavily classed experiences of the vertical. An impoverished family living on the seventh or tenth floor had to potentially accept significant shortages of water. Wealthy Luandans could find solutions. The usual association between height and social hierarchy was often obfuscated in Luanda, as occupation of top floors only became desirable if one had the means to patch the shortcomings provoked by height. What these stories and experiences spoke to were the difficulties of vertical living, embodied in the constant need to assess how building solidarities could be mobilized and services extended up levels. The DIY verticality of Luanda shows verticality to be fragile, a constantly-achieved status threatened with being unmade if effort and money are not invested in maintenance and repair (see also Arrigoita 2014).

If we approach verticality from what Jackson (2014: 221) has referred to as "broken world thinking" focusing on "erosion, breakdown and decay rather than novelty, growth and progress" as the primary analytic, this also forces us to confront the gradated forms of privatized belonging produced by crumbling verticality. In much of the contemporary world, membership in the city, both politically and materially, is experienced through connectivity marked most infamously by infrastructural connections. Hence the active mobilization for rights to services, housing, and land as material indicators of state care (Makhulu 2015, Holston 2009). Luandans might yearn for state intervention, but the reality is that individuals have been forced to deal privately with most challenges regarding water, electricity provision, and sanitation, contributing to a DIY verticality visually distinguished by wires cascading down the middle of stairwells; multiple layers of plastic waterpipes; and caged generators. The realization of Marshallian social rights now fall on the individual rather than a broader social compact. The ability to mobilize patches for buildings not only indicates socioeconomic differentiation amongst urban residents, but also shows that material belonging has become a mostly privatized affair in Luanda.

DIY verticality resulted in an ambiguous relationship with height

Luanda's Luxified Skies

African urban fantasies have tended to be directed at meeting the needs of the elite and middle class, repeating global trends that have seen an "elite takeover of the skies" (Graham 2008: 191). In Luanda, the sign of this status, however, was not simply height, but height with material connection. In the old high-rises, DIY verticality resulted in an ambiguous relationship with height, as comfort could only

be achieved through significant individual exertion. In the new high-rises, built following the end of the civil war in 2002, both state and private investors appealed to the wealthier echelons of Angolans, a fact suggested by a promised world of infrastructural ease, that implied that the buildings had overcome the limitations of the city's DIY urbanism. A close look, however, revealed simply more sophisticated patching and new practices of privatization as state institutions and investors sought to counteract the city's uncontrollable materiality. African urban fantasies would thus ultimately prove difficult to achieve.

While the luxification of the vertical has often been associated with the undoing of state welfare provision, in Angola, it in fact partially flowed through the state. Perhaps the most prominent exemplar of new visions of the vertical were the state-subsidized '*novas centralidades*' (new centralities) - satellite cities and residential areas that had recently been constructed along Luanda's urban periphery. Made up of mid- to high-rise buildings and predominantly funded via Chinese oil-backed loans, these satellite towns were intended, as one MPLA election advertisement described, for those "with more buying power." While varying in size, they sought to incorporate all the amenities of an urban area into new, formerly-peripheral regions of the province. The hope was to encourage the decongestion of the city center via the attraction of affordable and materially comfortable home ownership. However, when the flagship "new centrality," Kilamba, was officially opened in 2011, the smallest apartments were selling for US$125,000, well beyond the financial possibilities of most Angolans. In addition, to qualify to apply for a residence, one had to prove that one had a permanent employment position, limiting most potential occupants to state employees or those who worked for oil companies and banks—that is, the "middle class." Even when prices were dropped after accusations that the costs were rendering Kilamba a "ghost city" and a rent-to-buy scheme was introduced, the price remained approximately US$400 a month. It was therefore only those with some relative wealth who could purchase apartments in the new centralities. Those without disposable income, or whose employer could not subsidize the purchase, continued to rent or live in *musseques* (slums). Alternatively, if their houses were demolished, they might be transferred to ground-level stand-alone houses in the rehousing zones. Luandans therefore associated the new high-rises, whether state or private, with wealth and political connections, with people often claiming that those connected to the ruling party had received apartments. This seemed reinforced by reporting that linked new private high-rise construction to political elites. For instance, one thirty-five-story building, which the state purchased for US$115.4 million, was linked to a company in which former President José Eduardo dos Santos's daughter-in-law held a 45 per cent share (Marques de Morais 2016). Many private constructions of 20 stories or more have been approved or are already under construction. The extravagant costs of renting or purchasing meant that the completed high-rises mostly stand empty or often have a

miniscule occupancy rate, usually composed of expatriates and the occasional wealthy Angolan.[3] This has led to substantive suspicion regarding the financial and political connections behind these buildings.

The major appeal of the new high-rises, however, was not necessarily their height (which Luandans often had ambiguous feelings about), but the modernity and status associated with infrastructural connection. When these amenities intersected with the associations of verticality with wealth, status and luxury, the new high-rises drew admiration. The publicity for the new centralities emphasized that services such as water and electricity were provided for by special infrastructures built for these projects. The promotional booklet that accompanied the opening of the first phase of Kilamba, and which was distributed with the daily state newspaper, the *Jornal de Angola*, contained pictures of a new electricity substation, water treatment plants, drainage pipes, and sewage treatment areas. The state, these images suggested, would provide. Equally, private companies used pictures of lush infrastructural comfort to promote their projects' attractiveness. For instance, the website of the still-to-be-completed Kinaxixe Center displayed the promised twenty-seven-floor towers lit up in the night sky with a flowing water feature outside of them (Figure 4). The image suggested a materiality of the senses that produced their own politics of hope and desire—for lights that come on when one pushes the switch, water streaming out of taps, and the cool feel of an air-conditioner. However, these "fantasies" were quickly brought to earth by existing urban materialities.

This grappling was evident in two spheres—the difficulties of actual construction and the question of the further privatization of what many imagined should be state functions. Far from urban planners being able to force their will on the city, attempting to enact African urban

Figure 4. Author screenshot of website for the Kinaxixi Center, which includes Kinaxixe Shopping (Kinanxixi Empreendimentos Imobiliários 2018). [This figure appears in color in the online issue.]

fantasies on Luanda only highlighted the intransigence of people and objects. Even the rich and powerful were forced to grapple with DIY verticality. I began to realize the difficulties posed by the city when I was visiting the offices of IPGUL (Luanda Urban Planning and Management Institute), the city institution that was in theory responsible for approving the construction of new buildings and urban development plans.[4] Located in the central neighborhood of Ingombota, the office was filled with computers and large sheets of paper showing plans for "social housing," the Angolans' term for the matchbox constructions of the city's rehousing zones and special land reserves for future urbanization.[5] One of the office's employees had agreed to let me look through some of the better-known plans for various parts of the city. Pleased to find out that she might have information on Kilamba, I was eagerly looking at the images popping up on her computer screen. "Do you have stuff on the whole city?" I asked. "We should," she snickered, "but we don't. If only." The IPGUL employee's response was typical of most planners I spoke to. In sharp contrast to visions of master-planners enacting utopian visions on the landscape, the truth of building in Luanda was incredibly frustrating. One planner, working on a project linked to the Presidency, ran into problems when the city's water company, EPAL, refused him access to its maps of water infrastructures, only letting him look at them in their offices. An engineer described to me how, when planning a new high-rise near the center of the city, it had taken months to get the plans of one of the neighboring buildings, which were needed in order to plan how to lay the foundation. The owner simply refused to hand them over. Eventually, they had to track down the original architect in Portugal. However, once they began drilling, they hit the building's basement. It turned out that multiple basements and floors had been added to the building that did not appear on the plans. In Luanda's construction, the awkward mutual support between materials and the hidden aspects of the city produced a DIY urbanism that exhibited itself in the city's uncontrollability and unpredictability, forcing relations to the buildings that could work to ensure their and their occupants' everyday survival.

Even the rich … were forced to grapple with DIY verticality

This uncontrollability and mutual reliance between objects and people exhibited itself in the finished product of many of these fantasies, the new high-rises of the city center. As with the existing city, these high-rises had to overcome and grapple with a basic infrastructure that could not adequately support them. To manage this, significant investments were made already in their planning to build water-tanks, purifying systems, and large generators, so that provision appeared to be seamless. This was, of course, not the case. Some of the new constructions, Portuguese planner Adriano claimed, expelled their sewage directly into the bay untreated, as the city center's sewage treatment facilities were not sufficient. Others occasionally made use of trucks that would come and extract all of the sewage from the building. Even the official headquarters of the state oil company, Sonangol, needed a large generator to

keep it running. The city might appear "glamorous," Adriano explained, but had dubious underpinnings.

To those unfamiliar with the intricate system of patches already designed into the buildings, they could mistake their smooth functioning with efficient state provision or effortless verticality. Instead, people were paying notable levies to ensure that the patching was taken care of, so that they did not have to struggle individually with the infrastructures of the city. These new forms of privatization were built into planning imaginations. Not only did the first state housing project built after the civil war, Nova Vida, have new water and electricity infrastructures planned into it, but a private management company, Imogestin, was contracted by the state to negotiate with the city water and electricity companies EPAL and EDEL on behalf of the residents. These privatized arrangements were inevitable, for, as one of the real estate developers commented to me: "I am not going to stay in a new building which has a shortage of electricity, of water. I am not going to do it. I will stay in the old building, in which I pay a much lower price than in the new one." His colleague agreed:

> The water reaches to the tenth or fourteenth floor, it has to reach. And, the old buildings, we have some limitations. From the fifth floor onwards, you have to have an *electro-bomba* (electric water pump). And, on the other hand, we have a lot, how can I say it… organisation in the new buildings because of the condominiums. In the old buildings, there were some problems when neighbors didn't cooperate to improve the building, the real estate, in the new ones there are not. They force the client who buys, he will have to associate himself with the condominium that is for the management of that building. I'll pay, I already used [the services]. In the old building it isn't like this, you have to create an association of your neighbors to try and maintain that building in some kind of decent form. (Paulo, interview, April 15, 2011)

Murray (2015) has argued that the new satellite cities and urban precincts typical of the kinds of aspirational planning of African urban fantasies are by necessity linked to their "shadows"—the existing crumbling cities that they seek to escape. They are therefore "indelibly marked by the circumstances that accompanied their coming into being" (Murray 2015:93) Luanda's new high-rises sought to maintain an appearance of effortless verticality, which they had not attained. For, despite appearances, they ran off the same patchwork infrastructures as the old, simply with greater resources and new forms of privatization to facilitate this, such as private management companies and enforced levies. Luanda's materialities were not only able to "impede or block the will and design of humans, but also to act as quasi agents or forces with trajectories, propensities or tendencies of their own" (Bennet 2010: viiii). As mediators, the existing infrastructures forced certain kinds of design thinking and undermined the realisation of fantasy, disrupting any easy narrative of *tabula rasa* urbanism. Glamor did not indicate a

connection to formal infrastructures; instead, it was the product of a political economy where economic power enabled one to purchase urban inclusion. The new high-rises embodied the epitome of the privatized belonging of the patchwork city, where the possibility of inhabiting what are seen as the material comforts of urban citizenship is dependent on one's ability to pay for them.

The Expensive State: Neoliberal Privatized Belonging

If patching indicated the privatization of belonging, so, increasingly, did new mechanisms of formal infrastructural provision that reconfigured the possibilities of material inclusion. In May 2011, I drove with Tiago, Paulo and Eugenio, three real estate developers, through Luanda's quickly changing urban edge. We visited empty sites they had bought in anticipation of growing demand for housing. Our final stop was a grouping of multi-colored high-rises standing at the entrance to the largest rehousing zone in the city, Zango. They explained to me that these high-rises, funded by the state through oil-credit lines, were for middle-class people because they had "*condições*"—"conditions," the word generally used to refer to infrastructure. Recently, two buildings in the city center—the Prédio de Lagoa and the Cuca Building—had been evacuated by the Programme for the Rehousing of the Population and all the residents, it was rumored, had been rehoused in these high-rises.[6] Given that one of the evacuated buildings, the Cuca Building, held an iconic status in Luanda's landscape, the general word on the street was that it had been considered inappropriate to rehouse the building's inhabitants in the matchbox houses of the Zango.[7] People needed to leave a high-rise for another high-rise; to move them to ground-level social housing would mean reducing their symbolic status. The real estate developers, were, however, skeptical of the decision to rehouse everyone who had been in the Cuca Building. The problem was, Tiago explained, that you could not identify who was middle-class and who was poor; they were all jumbled up in the buildings in Kinaxixe, the area where the Cuca Building had been located and where Dona Lili lived.[8]

Tiago and his colleagues repeated to me an oft-heard argument in Angola that poor people should not live in high-rises because they supposedly do not know how to how to live in them. Tiago and the others argued that people would have to be "re-educated," as they were not used to disposing of water down the drains or paying levies. The comments' clear class stratification placed (racialized) poverty in a relation of opposition to imagined practices of modernity represented by the supposed mastery of technologies of domestic verticality. Only those people that the real estate agents imagined inhabiting such practices were deemed worthy of incorporation into higher scalar levels of dwelling. The

reasoning appeared blatantly prejudicial to me. Firstly, those who had been moved had already lived in high-rises for years. It made no sense to argue that those who were poor did not know how to occupy them. Secondly, in my experience, regardless of income, people in Luanda tried to avoid paying levies. I once stayed in a luxury apartment block where there had been what I called a "list of shame" plastered inside all the elevators. It contained names and amounts owed in levies. The list included government ministers, diplomats, and high-ranking MPLA members. Money was not the obstacle to paying. However, the reference to levies did raise an issue, namely, as the previous sections highlighted, that wealth was often needed to maintain life in a high-rise.

Tiago and his friends explained that the buildings would be switching to pre-paid electricity and possibly pre-paid water; this meant, they argued, that some people might live in a building but not be able to use any services. In this case "patching" would then be necessary not because there was no connection, but because the connection available, the "formal" connection, was too expensive. For those who could not afford the meters, they would have to create their own unofficial connections to the electricity grid, similar to what many people in the existing city already did. The driving force behind DIY urbanism in this instance was no longer the limitations of the material, but the inaccessibility of the material, reconfiguring social rights and urban usage as privileges of the wealthy. If the residents of the Cuca Building had previously been forced into forms of privatized belonging because of lack, they now potentially faced privatized belonging due to a shift in calculation on the part of the state as to how services should be provided and paid for. The neoliberal assumptions built into the water meter that attempt to cultivate a self-governing subject and strictly control access to life-sustaining goods were creating a more recognizable privatized belonging, one steeped in notions of the state's role to facilitate business rather than rights (Von Schnitzler 2016). Thus, new forms of service privatization, in conjunction with socio-economic inequality, potentially forced people back into existing patterns of privatized belonging within the city, even if the reasons for this had changed.

Similar concerns about costs and inclusion were raised in discussions about the requalification of Cazenga, Luanda's most densely occupied municipality. Residents began to ask if they could afford to live in the planned high-rises once they had been built. The objection had been raised during a meeting of representatives of various local organizations in Tala Hadi, a commune within Cazenga. One of the men representing the Rastafarian association, AMORA, had been particularly concerned:

> This thing of building high-rises comes from Europe. The government needs to speak with the people. The government just wants to change people…We don't know what the criteria are. Building a high-rise and the people will pay monthly? We know from people who have travelled outside Angola that sometimes have to pay [levies] up to $200 monthly. Demolish houses, put in a high-rise, and afterward pass a new

> law that says we have to pay them. They take us out of the city so that they can get rich. The first payment begins with electricity, afterwards they build a water meter. (Amora representative, participant observation, June 13, 2012)

Everyone was nodding their heads and murmuring. Another person in the group raised his voice and explained that he knew someone who lived overseas who had to pay monthly for his apartment there. The representative of AMORA nodded, "We have to know if we are going to pay, if we don't, there will be complications." If practices of belonging in urban high-rises had historically hinged on patching—spending money to fill in the breaks in formal infrastructures to ensure connection and the functionality of the building—then in the new ones, other concerns were raised. Even if infrastructures worked, could one afford them, or would one be pushed into illegality to ensure urban material inclusion? As Adriano had suggested with the glamourous high-rises of the city center, there was a constant mismatch between surface and depth. In this case, the material demands of the high-rises conflicted with the economic ability of the inhabitants to maintain the appearance of effortless verticality, once again revealing verticality to be something which has to be constantly invested in, maintained, and cultivated, possibly by extra-legal means. Verticality was a luxury, one which had historically induced a materially-determined privatized belonging in the old city as height battled with achieving access to services and the ease of everyday life. In the new buildings, shifts in services and conditions of occupation produce a new privatized belonging that appeared seamless, but continued to have to grapple with the city's crumbling materiality or forced residents unable to pay for the appearance of seamless height back into this crumbling materiality. Ultimately, when state functions, whether through intent, incapacity, or negligence, were rendered marginal, personal wealth was required to maintain material cohesion and build connection to services. The high-rise as a mediator carried with it scalar demands of income and care, transforming promises of connection into varied practices of privatization and socioeconomic distinction. Verticality became a difficult achievement whose material instantiation in the high-rise produced privatized belongings of material patchings, and with that, class hierarchies of varied sorts.

Verticality … had historically induced a materially-determined privatized belonging

Conclusion: Materialities of Belonging in the Patchwork City

The dream of a seamless verticality does not seem to work in Luanda. DIY urbanism dominates the material world, as the city's constant process of ruination forces people into situations of privatized belonging. Even in the case of seemingly new buildings, the city's underlying dilapidation

demands a system of privatized patches or forces residents into extra-legal patching as new forms of privatized belonging emerge with the introduction of neoliberal planning techniques. To maintain the seeming effortlessness of moving elevators and fresh water bubbling out of taps, residents are forced into individualized or at the most localized negotiations with the built environment that emerge as the solution in the face of the implosion of state capacity or the transformation of understandings of state provision.

It is not perhaps, as Nelson feared, that everything would literally collapse (although the danger of that loomed), but rather that the material unpredictability that underpinned Luanda's high-rises threatened to unmake the seemingly easy visions of success that they performed. If regular maintenance ceased, if money disappeared, the transnational class hierarchies that the high-rises represented would be upended, as once again, the relationship between height and status would become ambiguous. Top floors are only desirable if infrastructure works, but in Luanda, that working is heavily reliant on private mechanisms. Luanda emphasizes that high-rises and the social hierarchies that they increasingly represent in much of the globe are reliant on a process of patching, a constant attempt to fight against disintegration as the political neglect and inefficiency of state institutions as well as effects of income inequality breathe themselves through the bricks, reaching upwards to the skies, inducing various gradations of privatized connection to the city. Verticality is fragile, and it is in this fragility that the everyday politics of relationships to the state, to other urban inhabitants, and to the built environment emerges. DIY urbanism shows that the material realization of verticality is consistently being threatened with collapse.

the material realization of verticality is consistently being threatened with collapse

Notes

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[1]Angola's civil war began at independence in 1975 and ended in 2002, with a military victory for the MPLA (Popular Movement for the Liberation of Angola).

[2]I use "first floor" in the way that it is used in Angola, which refers to the floor above the ground floor.

[3]In 2013, the minimum rental price for an apartment in Luanda's Central Business District was US$120 per square meter, while the minimum sale price was US$8,000 per square meter (Zenki 2013).

[4]Instituto de Planeamento e Gestão Urbana de Luanda

[5]The office would later move to the neighborhood of Chicala I. When I returned briefly in 2017, that office had been vacated.

[6]The Programme for the Rehousing of the Population is an office linked to the Presidency that was in charge of rehousing people whose houses were destroyed to make way for projects linked to post-conflict national reconstruction. It was disbanded in 2012.

[7]I would later discover that only some of those removed were placed in these high-rises, while others were rehoused in the normal rehousing areas.

[8]The Cuca Building, as with so many others in the Kinaxixe area, had been occupied ad-hoc since independence. Although it had initially been considered a luxurious building, over the years its increasing dilapidation and the growing residential density led to many of its wealthier residents departing. During the war period, large numbers of people had moved into it, many of them poor, and some reported to have occupied spaces under stairwells and building balconies. While I cannot attest to the veracity of these claims for the Cuca Building, in a building where I frequently stayed, where some of the residents included high-ranking politicians and diplomats, the doormen had occupied some of the verandas, placing gates and cardboard at the entrances to them. In this way, they created small private apartments out of what should have in theory been shared spaces belonging to the buildings.

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