

Young Residents' Perceptions of Windhoek's. The Uncanny Sense of Public Space in a Post-Colonial African Capital City

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Abstract

Urban streets are public spaces that can gather residents and create vibrant and diverse experiences contributing to the positive qualities of an urban landscape. Windhoek's suburban model, which has evolved from colonial and apartheid planning, relies heavily on private motorcars, which most residents cannot afford. The city's various neighbourhoods have historically been segregated by race, ethnic group, and wealth. The city lacks public spaces where different residents can easily and freely interact. Windhoek presents a particularly unsettling disconnect between the formal systems governing and producing the city and residents' socio-cultural backgrounds and everyday spatial practices. Windhoek presents a particularly unsettling disconnect between the formal systems governing and producing the city and residents' socio-cultural backgrounds and everyday spatial practices. This paper develops a methodology that combines non-expert participatory methods and tools to investigate perceptions of young residents of Windhoek's streetscape, extending beyond objective spatial descriptions and generalised socio-political critiques to address individual subjective perceptions, recollections, and experiences of specific urban spaces within Windhoek. The conceptual lens of the uncanny is employed as an organising concept to consider how the spatial and social legacies of colonialism and apartheid continue to affect Windhoek residents' perceptions and behaviours in publicly-accessible spaces. The paper examines residents' objective topological understandings of the city's spatial structure, their movement through it, and their subjective, qualitative social perceptions about place, value and belonging connected to that spatial understanding.

Keywords: perceptions of public space, uncanny, streetscape, place

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Introduction

Namibia's capital city Windhoek has been called a particularly clear example of the *architectural uncanny* (Vidler, 1992), the city's built form conditioning structures of power and subversion and bearing the hostile imprint of two successive colonial occupations (Obert, 2015). This paper draws on this conceptual framework to investigate the subtly embedded experiential uncanniness in Windhoek's urban landscape and the systems and imaginaries that reproduce it. Windhoek's neighbourhoods have historically been segregated by race, ethnic group, and wealth. The city's lack of accessible, truly public, spaces (Lühl, 2012) further exacerbate residents' estrangement from one another. Windhoek's suburban form is designed towards Western middle-class ideals and imposes strict behavioural conformities on residents (Friedman, 2000). Namibian society is laden with historically-rooted group identities and imagined communities contrived towards colonial projects of occupation, subjugation, and segregation (Silvester, 2005). This recent history is lived experience for many of Windhoek's residents, influencing the meanings and identities that construct urban space.

This paper investigates residents' perceptions of Windhoek through the conceptual lens of the uncanny. The pervasive sense of unease experienced when navigating the city is explored through residents' perceptions, analyses of the city's spatial structure, and a critical examination of Windhoek's regulatory systems. In doing so, this paper asks the following questions: How do the uncanny spatial and social legacies of colonialism and apartheid continue to affect ordinary residents' perceptions and behaviours in Windhoek's publicly accessible spaces? What are the strategies by which residents navigate the city, and what do these reveal about the city's spatial structure? The paper's methodology combines non-expert participatory methods and tools to investigate three interrelated registers of perceptions: residents' overall subjective meaning of Windhoek as a place; residents' knowledge of the spatial structure of the city; and the attributes and qualities they attach to publicly accessible places.

Windhoek's spatial structure

Windhoek is arguably the only urban settlement in Namibia home to a diversity of residents broadly representative of the entire country. Successive colonial occupations have shaped the city's urban form, embedding unequal power relations into the urban landscape (Roland, Stevens and Simon, 2023). The city is composed of spatially separated residential enclaves and distinct income-based regions demarcate its urban structure. A series of spatial buffer areas of infrastructure, industrial zones, and open space separate the city along a North-South axis. The city-centre and affluent eastern and southern suburbs are isolated from the middle-income western neighbourhoods by the city itself. This separation is reinforced by the railways and industrial zones that bookend the city. The city's middle-income western suburbs are separated from the low and no-income suburbs on the city's northwestern fringes by the Western Bypass highway, a structural barrier reinforced by open space, institutional functions, city services, and road reserves. Modernist town planning and low-density single-use zoning, reliant on private motorcars, has been implemented in Windhoek since apartheid, and continues to be the way the city is planned.

Windhoek's street network has two regional thoroughfares bisecting the city, the Western Bypass in a north-south direction and Sam Nujoma Drive in the east-west direction. Other main (or trunk) roads demarcate suburban boundaries and connect the suburbs to the city centre. These main roads extend like individual spokes from the suburbs to the city centre without establishing connections across enclaves of varying income levels. Residential roads

are confined within these enclaves, infrequently crossing main roads. Windhoek's hilly topography has distorted the network of main roads into an irregular, curvilinear shape without considering view corridors or sightlines.

Urban streets have long been considered important public spaces with the potential to draw city residents together, creating vibrant, diverse experiences and contributing to the positive qualities of an urban landscape (Jacobs, 1993). In the ongoing Covid-19 pandemic, lockdowns have highlighted the role public spaces, such as streets, play in limiting or encouraging human interactions (Malonza, 2020). However, Windhoek's municipal government considers urban growth primarily driven by capitalist market forces, favouring middle- and high-income residents (Friedman, 2000; Lühl, 2012). Municipal planning thus prioritises the creation of private spaces or privately-owned public spaces, like gated communities and shopping malls, which are generally located within Windhoek's more affluent suburbs. Enclaves within enclaves thus define Windhoek's spatial structure. Windhoek's hierarchical street network provides links between such spaces across the metropolitan area, for those who have the means of transport to use them; but the city's streets are not social places in their own right.

Surveillance and control: the role of planning regulations in Windhoek's Street network

Windhoek's Structure Plan, the document that outlines the city's town planning goals, considers streets as functionally engineered spaces, hierarchically ordered by vehicular carrying capacity and "envisaged to accommodate traffic growth" (*The Windhoek Structure Plan*, 1996, sec. 19.4). The plan considers urban environments as constructive economically while emphasising the negative social impacts of cities such as crime, visible poverty, and the deterioration of family structures. According to the plan, these social ills require rigorous control through "new street layouts which concentrate on designs which improve local surveillance or can be privatised" (*The Windhoek Structure Plan*, 1996, sec. 8), the opposite of making streets inviting to the public. Public space is not mentioned in the document. At the time of writing, the Structure Plan, in place since 1996, is in an ongoing process of being revised. Preceding public consultation for review, distributed documents highlight Windhoek's 'spatial fragmentation', 'mono-functional land use' and the 'persistence of the apartheid spatial form' contributing to spatial and social injustice. The concept of public space, specifically streets as public spaces, was absent from the document that focused on promoting economic growth and development.

Windhoek's street network is managed by the *Department of Urban and Transport Planning* under the *Planning, Design and Traffic Flow* division. The department administers streets and public places through the Local Authorities Act of 1992. In this act, ordinances¹ lay out the "regulation and control" of "traffic, processions, performances, singing, dancing and gathering in streets and public places", "the maintenance of order in streets and public places", "the prohibition, restriction, regulation and control of begging in streets or public places and the soliciting or touting for employees or for business or trade", the "regulation and control of street lines and building lines" and the "prohibition of the conducting of any business or occupation or any other activity for gain in or alongside streets and other public places" except when expressly permitted by the local authority (*Local Authorities Act 23 of 1992*, 1992, secs 94(d)-(i)).

¹ the *Road Traffic and Transport Act of 1999* and the *Roads Ordinance of 1972*.

The language of regulation and control of streets highlights the city's negative view of street life. In a comparative study of Malaysian shopping streets, which covered a range of scales and spatial typologies, activity influenced people's perceptions (Ujang, 2012). Human activities produce place identity and vitality in the sense of liveliness, and energy, comes from pedestrian movement and human activity (Jacobs, 1993). Streets, and their sidewalks, are the main public places and first impression of a city, and lively streets, with "eyes on the street" through human interaction, encourage use and add to a general feeling of safety (Jacobs, 1961, p. 109). Buildings along these streets "cannot turn their backs or blank sides on it and leave it blind" (Jacobs, 1961, p. 109). City streets can encourage "a very wide range of direct communication and cultural exchange", and the quality of public space directly impacts the "volume and character" of the life it contains (Gehl, 1989, p. 15). Windhoek's Town Planning Scheme² detailing building regulations and zoning stipulates a five-metre set-back from the street boundary across most use zones, including residential, industrial, institutional and office (*Windhoek Town Planning Scheme*, 2017, sec. III (14)). Main streets and residential streets have the same set-backs and often the same road widths and speed limits. Set-backs from streets and property edges prohibit the evolution of a finer or denser urban grain along main roads that could differentiate them or generate landmarks and nodes aiding orientation. Set-backs to residential roads continue to perpetuate blank, fortified walls by which residents attempt to shield themselves from the dangers of the streets.

Streets and spaces of movement were used as spatial tools by modernist apartheid planning in township design to create asymmetry (spaces separated from each other and only accessible indirectly via other spaces) and a lack of alternate connections to other parts of the city (Mills, 1989, p. 72). Windhoek's residential areas west of the Western Bypass, which have expanded from Katutura and Khomasdal, both apartheid-era townships, display similar spatial strategies despite post-dating the official end of apartheid.

Windhoek's municipality has tacitly accepted that racial segregation be replaced with economic segregation instead of critically engaging with inherited colonial systems of urban space-making (Friedman, 2000, pp. 12–13). The superficial de-racialisation of urban policies and schemes, merely re-wording a few paragraphs, continues to implement the essence of colonial and apartheid urban planning, using the city's streets as infrastructure to separate and control residents.

Perceptions, spatial image and mental maps

Every city has a public image, a collective character or idea of the city, formed from many individual perceptions (Lynch, 1960). Cities, in their urban structure and layout, influence human behaviour. Roman cities reflected their military role within the Empire in their strict schema of streets, forums, public buildings, and barracks, and Haussmann's plans for Paris used broad boulevards to facilitate military control of the population, simultaneously giving rise to the flânerie and cafe culture the city is known for (Gehl, 2010, p. 9). Citizens collectively use these city images to navigate urban environments and their social relations (Lynch, 1960). Urban environments, through their structure and attributes of physical elements, can facilitate or limit residents' orientation (Long, Baran and Moore, 2007). A city's spatial structure affects residents' daily experiences by influencing their sense of autonomy, and low intelligibility reduces the ability to react to the expected behaviour of

² a document ratified in 1976.

others, diminishing an individual's sense of personal control within an urban environment (Kim, 1999).

In most cities, only partial control over urban growth and form has been exercised (Lynch, 1960, p. 2). Windhoek is an example of near-complete realisation of colonial spatial projects of racial discrimination and control, first in an ad-hoc manner during German colonialism (Zollmann, 2010; Roland, Stevens and Simon, 2023) and later comprehensively during apartheid. Apartheid was enforced more rigidly in Namibia than South Africa (Pendleton, 1996, p. 38). Mills, investigating the connections between built form and social organisation in South Africa, finds the racially-segregated township operates as a direct spatial reproduction of the social structure of apartheid, making “optimum use of the power of space to separate people from one another” with street layouts instrumental in restricting or directing movement (Mills, 1989, pp. 71–72).

The uncanny: a conceptual framework

Julia Obert has argued that postcolonial cities exemplify Anthony Vidler's notion of the *architectural uncanny*, and that Namibia's capital city Windhoek provides a particularly clear example of this. The legacies of both colonialism and apartheid remain firmly embedded in the city's built environment and, as noted above, also in the systems, tools and imaginaries that reproduce them, the “strong residue of colonial attitudes [...] encoded in legislation, building codes, [and] surveillance procedures” (Rogerson, 1990, p. 39). The colonial drive to (re)create home in foreign lands, and local resistance to this, have been inscribed in the city's landscape, and this struggle has coloured the mechanisms, language and imaginations used to (re)claim and (re)make the city in independent Namibia. Place, as the notional space of self and belonging, of *home*, is delegitimised for the majority of the city's inhabitants by these colonially inherited constructs and imaginaries. The cities' urban spaces have been described as ‘visibly haunted’, retaining spectral traces of subjugation and oppression as constant reminders of the colonial past (Obert, 2015).

The uncanny is considered a counterpoint to the notion of *place* as a sort of *anti-place*; that which haunts place, the ‘presence of absence’³ on an urban scale. The concept of the uncanny refers to perceptions of tangible and intangible factors, intersecting notions of belonging, memory and place, occurring in physical spatial structure and social relationships. Windhoek is uncannily haunted by something that is repressed but not permanently excluded and continually threatening to reappear. The City of Windhoek's self-promotion since independence as ‘The Cleanest City in Africa’ demonstrates an uncanny omission of the city's poor northwestern suburbs from any collective discourse or conceptual idea of Windhoek as a social space. Referencing colonial notions of propriety and order, the different status of the “squeaky clean” city centre and so-called formal suburbs to the more populous, *informal* northwest is perpetuated (Tjirera, 2020). The persistence of these colonial logics has seen planners in independent Namibia continue their emphasis on surveillance and hygiene when planning for the city's poor districts (Obert, 2015). Tourists visiting Windhoek frequently remark on the city's ‘un-African’ character (Steinbrink et al., 2016, p. 26).

³ a phrase coined by Peter Eisenmann, architecture as a form of text read through the present/absent traces of a design process.

Methodology

The research questions, asking how the uncanny spatial and social legacies of colonialism and apartheid continue to affect Windhoek residents' perceptions and behaviours in publicly-accessible spaces and what their strategies of navigation reveal about the city's spatial structure, constructed a methodology that integrated spatial analysis with experiential data produced through non-expert participatory methods. The research aimed to explore how Windhoek's urban environment was deliberately arranged to counteract (and still actively challenge) residents' endeavours to establish connections with each other and the city itself, as a place of residence and a foundational source of their sense of belonging. Using participant data foregrounded individual subjective viewpoints, memories, and encounters linked to particular urban spaces within Windhoek.

The research paradigm, contrary to conventional expert-produced spatial data and policy analysis, did not aim to establish generalisable findings about residents' relationships to Windhoek but instead to produce a methodology to explore the psychological experiences and interpretations of public space, providing a glimpse of how residents negotiated their existence in the city. This phenomenological paradigm guided the selection of participants, which will be elaborated upon in the subsequent chapters. The paper examines residents' topological understandings of the city's spatial structure, their movement through it, and their subjective, qualitative social perceptions about place, value and belonging connected to that spatial understanding. The paper uses the uncanny as an organising concept for examining the complex mutual influences between urban spatial layouts, orientation, memory, social interaction, and well-being. The uncanny focuses on negative perceptions and experiences of absence, unfamiliarity and exclusion germane to Windhoek's demography, history, politics, and landscape.

In previous studies of place perception, the spatial layout of a city has been shown to either facilitate or limit orientation, depending on the arrangement and character of the physical elements of the city (Long, Baran and Moore, 2007). Spatial layouts affect movement and circulation and generate connections between spatial elements, which form mental images and relationships between spaces (Koseoglu and Onder, 2011, p. 1193). Space syntax theories have demonstrated that orientation and wayfinding suffer when these spatial connections become harder to perceive (Hillier, 2003). Lynch considered a city's legibility, the ease by which its physical parts and components could be recognised and organised into patterns by residents, central to residents' well-being and confidence and sense of control in using and moving through urban space. A legible city produces a robust mental image associated with positive feelings stemming from the spatial qualities that make it recognisable, memorable and navigable (Lynch, 1960).

People's graphic or verbal representations of urban space have been used to demonstrate their perceptions of the city and how they mentally structure their environment (Karan, Bladen and Singh, 1980). Cognitive, or mental, maps are a tool used to study cognitive processes that enable people to acquire, order and manipulate information about their spatial environment, a key component in everyday spatial decision-making (Stea, Downs and Boulding, 2005). Composing a mental map challenges participants to construct an image held subliminally, an introspective exercise drawing out subjective experiences of the city (Pocock, 1976, p. 493). The mental mapping method examines how space is produced and experienced, clarifying human-environment relationships and how space structures social relationships (Gieseeking, 2013). Lynch's method of mental mapping has found application in studies of many segregated cities such as Jerusalem (Greenberg Raanan and Shoval, 2014), Sao Paulo (Freeman, 2003), Dar Es Salaam (Smiley, 2013) and Cape Town (Forde, 2019). Researchers have also used mental maps to gather input from previously excluded groups

(Jung, 2014; Campos-Delgado, 2017) and to study so-called informal urban areas (Karan, Bladen and Singh, 1980; Damayanti and Kossak, 2016; Harris and Little, 2019). Yi-Fu Tuan considers mental maps “cartographic representations of people’s attitudes towards places” (Tuan, 1975, p. 205).

Combining and adapting methods

People not trained in spatial analysis often find it challenging to verbally communicate the multi-sensory aspects of spatial experience and complexity, which can be mitigated by combining visual, verbal, observational, and spatial methods (Edinger, 2014). Although the official language of Namibia, most of Windhoek’s inhabitants are not native English speakers, and their varied cultural backgrounds encompass a range of social norms and conventions; addressing self-consciousness stemming from these factors was important in devising the methodology. The research was conducted in an informal outdoor setting, with group interactions, videos, visual prompts, and example drawings sourced from other research. The methods elicited non-verbal means of expression from participants, which guided and eased verbal discussion. In examining what Windhoek, as a place, means to residents, their knowledge of the city’s spatial structure, and the perceived attributes and qualities of publicly accessible spaces, this paper adapted and combined methods that would position participants at different scales and registers to the city. Semi-structured interviews asked broad but subjective questions about the overall meaning, and general description, of Windhoek, discursively framing the city in terms of its history as a colonial capital and significance as the capital of independent Namibia. Mental maps, as a personal, experiential, and subjective description of the city, shed light on participants’ knowledge of the city’s overall structure. A qualitative mapping exercise, outlining areas of danger, discomfort, and safety, elicited place-specific qualitative attributes.

Lynch’s original mental mapping study confined itself to small, relatively well-defined inner-city areas. Although Windhoek has a well-defined and generally well-known city centre, this research was interested in participants’ overall perceptions of the city. Participants were given full agency, choosing scale, orientation, colour, layout, extent, amount of detail, planimetric, perspective or narrative views on a blank sheet of paper. The instructional set emphasised eliciting a personal, meaningful representation of the city. Examples sourced from other mental mapping studies elsewhere were shown to participants merely to equip them with a range of representational techniques.

Mental mapping studies have shown that colonial history is integral to beliefs, preferences, attitudes, and values in learned and imagined features, and meaningful and well-liked places are included in maps (Madaleno, 2010, pp. 123–4). Prior studies have suggested that people do not include places and features considered unimportant or irrelevant to them on their mental maps (Smiley, 2013, p. 217). It was hypothesised that Windhoek’s participants would be equivocal in illustrating places or spatial features of the city that were perceived as particularly uncanny or uncomfortable. In the mental maps, the uncanny was presumed to occur in the ‘presence of absence’ of otherwise prominent spatial or ordering elements. To engage participants in talking about areas of discomfort, an exercise where they mapped and verbally described their familiarity and comfort with different areas of Windhoek was introduced. This method is based on participatory GIS mapping methods, as an alternative qualitative methodology to spatially represent place-attachment and spatial narratives (Pavlovskaya, 2022). The method integrates the rich descriptions of qualitative place studies eliciting different perspectives without a reliance on technical equipment or drawing skills in participants (Lowery and Morse, 2013). The method was adapted from a group setting to

an individual exercise, in line with the research questions' focus on subjective experiences of the city. Participants were given a diagrammatic map of Windhoek and asked to outline areas of comfort, discomfort, and danger in different colours, paying attention to the placement of edges, and inclusions or exclusions.

Sampling and data collection

Ethnic and group identity in Windhoek is deeply intertwined with historical colonial agendas, and this recent history remains a lived reality for many of Windhoek's residents. Establishing commonalities in residents' connections to the city would necessitate balanced representation across various generations and proportional inclusion of ethnic and language groups. By not selecting participants based on ethnicity, the recruitment process intended to preclude these aspects from influencing participants' involvement and subsequent data analysis. Participants were of the so-called "born free" generation, born after 1990 into an officially de-racialised Namibian society. They did not have a spatial sciences and town planning background and were proficient in conversational English. They were between 19 – 26 years old. With the help of a local research assistant, recruitment was done by snowball technique via social media and flyers distributed at schools and tertiary institutions. The sample was not stratified by gender or ethnicity, but excluded those who had lived in Windhoek for less than two years. Sample sizes were based on Lynch's studies which involved 15-30 participants. Amid the Covid-19 lockdowns and group gathering restrictions in 2021, data collection and sequencing had to be repeatedly rescheduled, with the pandemic significantly amplifying participation reluctance as many young residents temporarily left the city. 13 residents finally took part in the study; five male and eight female.

Although the small number of participants did not make up a proportionate sample of Windhoek's residents, they included the four main languages spoken in the Khomas region⁴: Oshiwambo, Otjiherero, Afrikaans and Damara. Ten participants lived in Windhoek's most densely populated low-income suburbs west of the Western Bypass freeway, and three resided in the middle-income suburbs west of the city-centre. Only one participant owned a car. Data collection was carried out in two stages. First, participants undertook the mental and outline mapping, in small group settings, presenting their sketches to each other. Second, participants were individually interviewed using their visual material as prompts. The data collected for each participant was a mental map, an outlined map, and a semi-structured interview of 45 – 90 minutes.

Data description

Imagining Windhoek

Participants' imagined depictions of Windhoek favoured the city's overall social relations. Participants were asked to explain what Windhoek, as a place, meant to them, followed by asking them to broadly describe what the city *looks* like. Despite an emphasis on visual explanations, most city descriptions were *social*. These were its dangers due to crime, economic and educational opportunities, residents' segregation, their diversity of language and ethnicity, and having to hustle to survive.

Only five included *visual* as well as *social* descriptions. Visual descriptions described the modern nature of the city, its schools, healthcare, universities, shopping outlets and office

⁴ According to the latest available census data.

buildings. Windhoek was called a beautiful place because of its buildings and lights. It was also considered messy, dirty, and crowded. Participants' descriptions revealed a strong link between the modernity of the city and its perceived dangers. Three participants chose to describe Windhoek as a capital city, combining visual and social descriptions, a symbolic centre or *heart* of the country, with many ministries, universities and banks. The diversity of residents, in this case, was related to the city's varied history of habitation, including historical events to describe the city's significance.

The interviews indicated participants' difficulties formulating a generalised physical city description. This frustration was also evident when participants were asked to describe prominent elements on their mental maps in more detail. These inquiries frequently prompted depictions of social connections rather than visual portrayals of locations.

Mental maps and spatial structure

Participants' mental maps of Windhoek could be ordered into three categories: sequential, spatial, and storytelling. Sequential maps are structured by continuous or linear elements, mostly streets, that are connected (Appleyard, 1970). Spatial maps show elements scattered across the page without clear connections (Pocock, 1976, p. 496). Storytelling maps use landscape as a device through which significant actions and actors are portrayed (Campos-Delgado, 2017). Spatial maps tended to be city-wide, sequential maps tended to be localised to neighbourhoods. Most participants drew spatial maps, three drew storytelling maps, and two drew sequential maps.

Windhoek's segregated spatial form was reflected in participants' sketches which often concentrated on small home territories, with important places such as the city centre or universities connected by conceptual curvilinear paths. Noticeably, these paths were never referred to by their name but described by their origin and destination. Three main roads, *Florence Nightingale Street*, *Mandume Ndemufayo Avenue*, and *Independence Avenue* running from the city centre to Katutura, were alluded to when aggregating participants' cognition of Windhoek's Street network (Fig 1). Schools and local shopping centres were often used to exemplify a residential neighbourhood. These places of interest were concentrated along the main roads. Only Post Street Mall and Independence Avenue in the city centre were considered destination streets. Commonly recognised landmarks were confined to the city centre, with Windhoek's only centrally accessible public park, *Zoo Park*, the most prominent.

Johannes, a Katutura resident, depicts his insights into the spatial dimensions of Windhoek's social disparities through his storytelling map (Fig. 2). In the top right, a cross on a hill symbolises Windhoek's German Christchurch, surrounded by the tall buildings of the inner city and the dollar signs of its central business district. Near the inner city are large homes, 'houses for the rich' with 'low crime' and 'luxury service provision', including the universities. Towards the middle of the page, on the right, are smaller 'homes for medium income', with green spaces and many cars. A mountain range, police station and symbolic red line divides the page horizontally; below it the low-income areas, 'populated homes' and 'plenty [of] shebeens'⁵, where the 'low standard of living' gives rise to 'drugs', 'rape', 'high crime' and even murder.

⁵ local name for the informal licensed drinking establishments

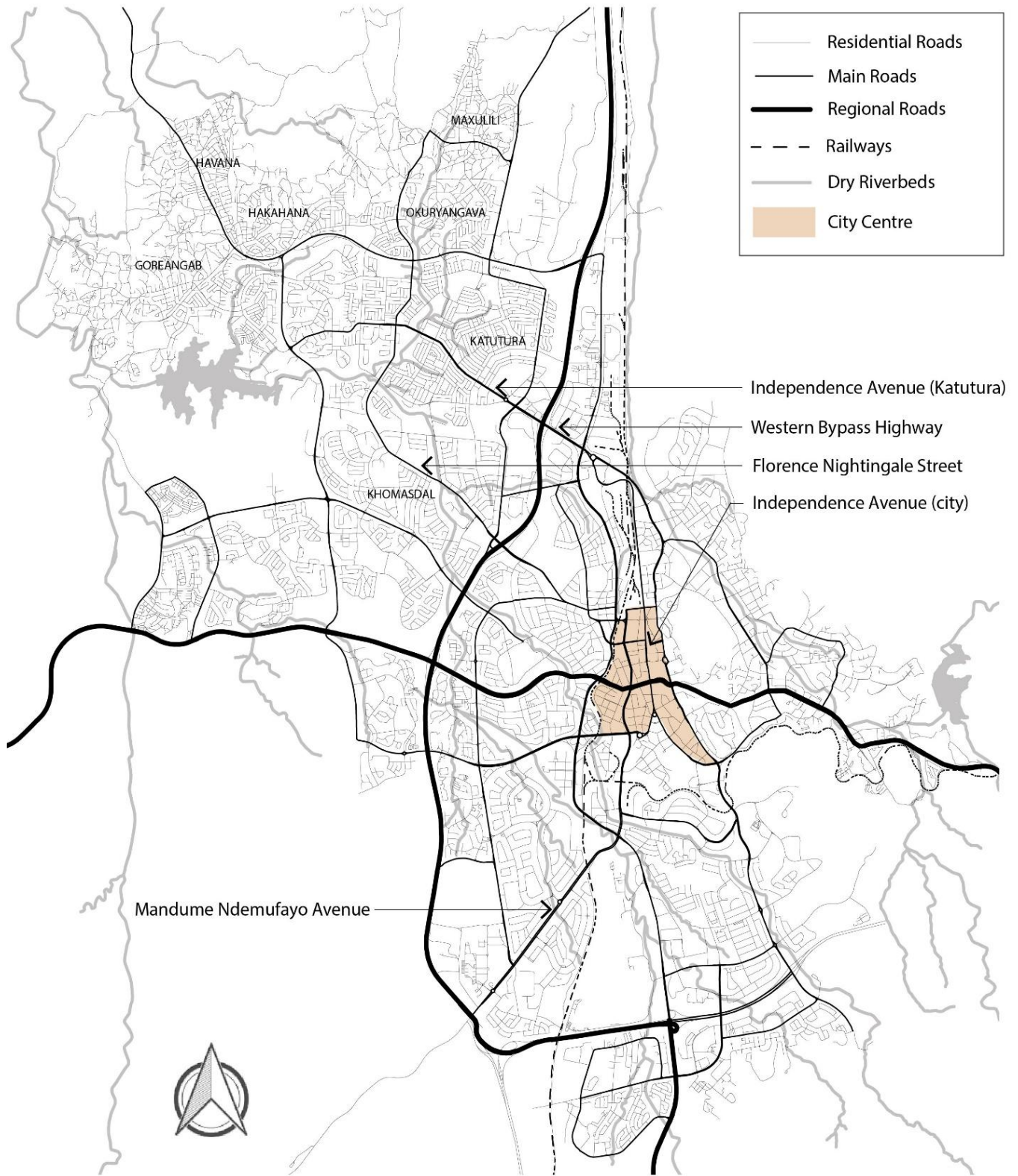


Figure 1: Windhoek's street network.



Figure 2: Johannes' storytelling map

Johannes explained that the red line epitomises the separation of the poor and the rich, adding that crossing the Western Bypass highway from Katutura to the 'other side' means better living standards. The red line is reinforced by hilly topography, pairing this notional division with landscape features. Income enclaves are separated by blank spaces and shown as marginally connected by dotted lines, suggesting a way of moving from one to the other without any direct spatial interaction. Johannes' map shows human activity in the low-income areas, but this does not continue into the middle- or high-income areas, where people presumably remain in buildings, cars or other private spaces. The notional streets are not drawn as having any character or spatial relationships to other elements on his map.

Place attributes and qualities

The outline mapping produced no overall coherencies on places of safety, danger or discomfort. Participants had various interpretations of these, substituting feeling comfortable for safety and being in an unfamiliar place for discomfort or danger. Participants consistently experienced a sense of comfort in their home territories, even if they didn't perceive them as entirely safe. Uncomfortable areas frequently surrounded these home territories. Reasons for feeling uncomfortable ranged between fear of crime and bodily harm, being told it was unsafe, not knowing anybody in a place, being unfamiliar with it, and feeling intimidated in higher-income suburbs. Areas deemed unsafe were sometimes places participants had not personally visited. First and second-hand accounts of assault and home burglaries were used to describe unsafe areas. Windhoek's informal northwest, including *Goreangab*, *Havana*, *Hakahana*, *Okuryangava*, *Okahandja Park* and *Maxulili*, was considered safe by participants that lived there. Non-residents considered these areas unsafe even when they were familiar with them. Katutura was the most-mentioned place in this exercise, despite only three participants being residents of that area. Despite not being congruent on safety, danger and discomfort, participants' edges and outlines produced distinctly separate territories within Katutura.

In the interviews, Katutura was often used to discursively construct Windhoek, to describe what other places were not: a symbol of the historical displacement of Black residents, full of street life, danger and crime, and visited regularly by most participants. Katutura has been called the antithesis to Windhoek's orderly, clean middle-income suburbs and city centre (Mendelsohn, 2018). The former apartheid-era township is both a "narrative point of reference central to the construction of Namibia's national identity" and a mirror reflecting the changes and social challenges Namibia has experienced since independence" (Pendleton, 1996; Steinbrink et al., 2016, p. 28).

Analysis

Interviews were notable for their lack of physically descriptive information about the urban environment. Abstract concepts were used to describe the city, such as its modernity, beauty, dangers, and criminality. As Johannes' mental map illustrates (Fig 2), these conceptualisations seldomly alluded to individual spatial elements. They reveal an imagined high-level ordering of the city's urban landscapes, describing spatialised inequalities within a restrictive urban landscape. These conceptual abstractions were

frequently used to draw contrasts between territories in the city but not between geographically connected or adjacent territories. These comparisons were a means of describing what places are and what they are not in relation to each other. In using analogies to speak about different territories within the city without physically describing them, participants also revealed a general unfamiliarity with the city.

Windhoek's disorientating streetscape

Like most of Windhoek's residents, most participants could not afford a car. Walking was considered dangerous and impractical outside of home neighbourhoods. Windhoek is heavily car-dependent and lacks walkways, cycle paths and affordable public transport options (Heidersbach and Stropfen, 2013, pp. 36–37). Participants' reluctance to walk correlates with prior studies showing that topography and the paucity of sidewalks limit the appeal of non-motorised modes of transport such as walking and cycling (Rodríguez and Joo, 2004). Distances are overestimated when routes cross perceived impediments such as hills (Sadalla and Staplin, 1980), which may result from the hilly topography's distortions on spatial awareness (Sun *et al.*, 2015, p. 37). Topography also affects visibility, impacting on the spatial awareness of pedestrians (Greenberg, Natapov and Fisher-Gewirtzman, 2020). The accessibility, size, and spatial attributes of public open space can encourage, or discourage, activities such as recreational walking (Giles-Corti *et al.*, 2005).

Participants said they did not get lost in Windhoek, limiting their movements between well-known places by taxi. Taxis prefer to remain on the main roads, especially during rush hour. 87% of Windhoek's population is unable to afford a private motorcar, with half of Windhoek's population spending at least a quarter of their income on transport, and the city's lowest-income residents unable to afford even the low public transport fares (Heidersbach and Stropfen, 2013, pp. 36–37).

Because participants relied on transport driven and navigated by others, their mental maps used non-Euclidean projections without discernible cardinal orientations. There were no common hierarchical cognitive organising principles, and drawn and narrated distortions were unrelated to actual spatial elements. Giving directions between well-known places, Tobias gave a typical response:

I would just say like ... from Khomas Grove Mall that person should just, like, drive straight... because it's just way straight, straight, then you find the robots [a local term for traffic signals]. Then straight again, then you just turn on your right. Once you turn on your right and go again straight, then you reach the CBD [Central Business District].

The more familiar a subject is with a certain route, the more detail they include on their sketch maps (Blades, 1990). Tobias' inclusion of *robots* points to a spatial familiarity with the route. However, his directions show that he cannot name streets, mentally arrange them into a legible pattern or cardinal orientation or describe them as having any defining characteristics. He knows where the streets can take him but cannot differentiate one street from another; nor can he describe any specific landmarks a traveller would need to recognise to change direction.

Tobias' directions refer to *Florence Nightingale Street* (Fig 3+4), a main road from Katutura to Khomasdal to the city-centre.



Figure 3: Florence Nightingale Street, a high-traffic main road. The lack of sidewalks makes walking difficult, and pedestrian barriers to overgrown open space further impede human movement. Robots and street in the middle distance are the only street features. A view of the Auas mountain range to the south of the city in the background. Photo by Fellipus Neghodi, with permission.



Figure 4: Wide streets and road shoulders. Buildings are set back a minimum of 5 metres behind fences and walls. Florence Nightingale Street in Khomasdal. Photo by Fellipus Neghodi, with permission.

The street is long, with wide unsealed road shoulders. Street edges are formed by the walls of private property topped by razor wire, electric fences, or spikes. Fast-moving traffic and untended sloping gravel road-shoulders make walking along the street difficult and dangerous. Fenced overgrown dry riverbeds further limit movement. Without direct sensory experience, people's cognition of large distances demands the integration of a series of sequentially experienced events into a representation of a distance (Sadalla and Staplin, 1980, p. 167). Without differentiating spatial features along Florence Nightingale Street, Tobias struggles to form a sequence of spatially distinct events along his route.

Windhoek's major streets are generally 8 - 13 metres wide, expediting the rapid expansion of the city and increasing volumes of motorised traffic (Heidersbach and Strompen, 2013, sec. 30). Main roads in the city's western and northwestern suburbs, of which Florence Nightingale Street has been discussed as a typical example, all intersect with the Western Bypass Freeway (Fig 5). The freeway separates middle-income from low-income and so-called informal areas. It is characteristic of freeways with large overpasses, intersections, and wide, unsealed road shoulders to either side (Fig 1). The Western Bypass was considered dangerous due to road accidents and the 'bush' around it, where participants recounted second-hand accounts of sexual assault and bodily harm.



Figure 5: Western Bypass Highway, looking North from Florence Nightingale Street.
Photo by Fellipus Neghodi, with permission.

Tobias' spatial mental map shows Windhoek's streets as an undifferentiated curved network of identical lines, with a suburban roundabout near his home being the only detail (Fig 6). Streets show no connections to the elements facing them. They do not set

up any spatial relationships between places. The most vividly drawn feature in the top left is the Khomas Grove Mall. The shopping mall is a concentration of human activity at the core of Khomasdal. Tobias' mental map shows two schools, and he lists with pride Khomasdal's other schools and sports facilities used by residents outside of school hours. The green sports fields, the playground, and the mall are publicly-accessible spaces to Tobias. Their prominent position and colourful illustration highlight their importance to him. Streets merely construct the edges of the irregular spatial archipelagos circumscribing these significant places.

As a point of comparison, a mental mapping study of an Indonesian *Kampung* found that streets with fast-moving traffic were perceived as disconnected from the buildings facing it, in contrast to the *Kampung's* smaller alleyways that had strong social and spatial connections to the urban fabric (Damayanti and Kossak, 2016, p. 63). The alleyways were perceived as meaningful for the social life within them. Similarly, Tobias' most significant elements, drawn prominently and colourfully, facilitate social interactions and human activity. The street network exists independently and is disconnected from these places of social interaction. His connection to his neighbourhood centres on publicly accessible places of social interaction, and it is clear from both his visual and verbal explanations that streets are devoid of any social interactions.

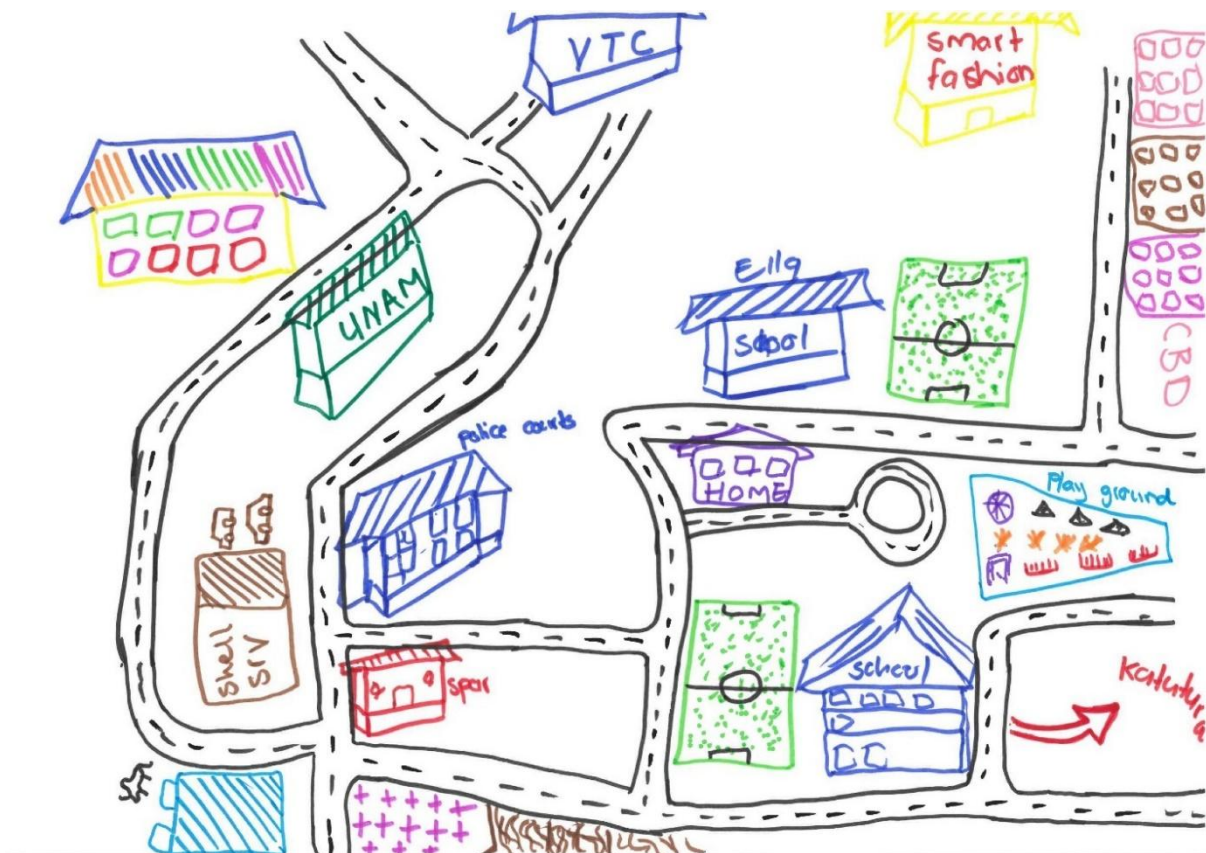


Figure 6: Tobias' spatial mental map, showing Khomas Grove Mall at the top right, and the sports fields associated with Khomasdal's schools in green.

Participants' limited mobility was evident in their use of abstractions and their difficulties in visually describing different areas of Windhoek. Windhoek's streets, designed along modernist town-planning lines for efficient vehicular movement since the 1960s, are not intended for pedestrian movement. The impact of the hilly topography on visibility is not considered in street design or layout, making the curvilinear distortions of the street network confusing. No view corridors are established by streets that point toward recognisable landmarks, nodes or public spaces. Curves, hills, dead-ends and overpasses instead obscure them. Streets are not experienced through bodily movement, and the main roads across the city's suburbs are long and monotonous. Residential streets are confined to suburban enclaves, not connecting across territories. Similar to the analysis of Jersey City by Lynch's respondents, with a "formlessness of space and heterogeneity of structure" (Lynch, 1960, p. 25), Windhoek's streets, lacking any relief in the general texture, have a disorientating effect. Windhoek's warm climate, hilly topography and lack of sidewalks discourage walking; the large distances between low-density clusters and vast tracts of overgrown open space between them are a further deterrent. The street network negatively impacts residents' spatial awareness and inhibits exploration on foot, recreational walking or cycling, and social interactions on streets. The disorientating and pedestrian-unfriendly streets negatively affect residents' overall sense of well-being and ease in relation to being in Windhoek's urban environment.

Social estrangement and dissociation

Beyond their immediate home territories, participants generally felt unfamiliar with the city, shaping their mental image of Windhoek. Their awareness of safe, uncomfortable, or dangerous areas did not share consistent characteristics. Yet, a pattern emerged around each participant's home territory, which was considered safe or comfortable, surrounded by occasionally visited uncomfortable areas and even less familiar dangerous zones often known only through hearsay. Discomfort and danger were attributed not to a physical change in the urban environment but to the unknown people who inhabit them – the uncanniness of strangers. Festus described it as follows:

"I am familiar with these places; I go there some of the times. But whenever I am there, I am always on alert. You know, I am always suspicious of people coming closer to me or people I am walking past. So, you are there, but you are not free. You are always on alert."

A common perception was that a stranger in an unfamiliar neighbourhood would immediately be identified and targeted for robbery or bodily harm. Windhoek's urban spaces have been described as "visibly haunted", retaining spectral traces of subjugation and oppression as constant reminders of the colonial past (Obert, 2015). This haunting, referencing the city's periodised architectural spaces, is also transfigured into a social register in the city's northwestern suburbs, where differences in people, their spoken language, slang, way of dressing, and behaviour echo the social alienation characteristics of apartheid's ethnic segregation. Jennifer explained:

"I would say my location [Nama10 in Katutura], it's like, it's safe [but] it's actually not safe. Like it's comfortable and it's safe only if you are known, but if you are not known then it's not safe."

The connection between Windhoek's modernity, characterised by participants as its unique status in Namibia as a city featuring modern, tall buildings, institutions, commerce, and government, crowded with culturally diverse residents, and participants' perceptions of the city's socially-generated hazards reveals their sense of estrangement. Participants would describe onlookers' indifference to muggings and beatings and uncaring attitude to others' homelessness and hunger. Like South Africa, apartheid made modernity a "deeply ambivalent experience for many" (Robinson, 2006, p. x). This project's inquiries into residents' perceptions of belonging demonstrated this equivocation, with participants always distinguishing between where they considered *home* and where they were *from*, even when they had been born in Windhoek. Cultural identity was grounded on rural ancestral settlements, but notions of home were related to individual preferences in lifestyle. The bustling and crowded nature of Windhoek was either appreciated or viewed as undesirable by participants. This individual-society dialectic considered the root condition of metropolitan modernity, illustrates the tension between the drive for social and individual realisation (Simmel, 2019). In Namibia, as in South Africa, modernity, and its contemporary counterpoint of developmentalism, considering African cities in need of policy-informed economic solutions towards attaining Western ideals and standards, are products of a colonial past (Robinson, 2006, p. 4) and continue to influence group identities, and the language used to describe urban places. In Katutura, certain areas are still informally referred to by their apartheid names, denoting particular ethnic groups, such as *Herero Location*, *Single Quarters*, *Damara Location*, *Dolam*, *Donkerhoek*, *Owambo Location* and *Nama Location*.

Dysfunctional built environments have been shown to embody the psychological principles for which they have been designed, affecting spatial users (Weizman, 2007). Urban spaces are no longer considered simply a container for, or outcomes of, social processes, but as a medium through which those processes unfold (Pinder, 2008). Windhoek's former townships, built during apartheid to ethnically separate Black residents, continue to facilitate social processes of othering, the colonial psychological principles underlying their spatial design. Research participant Jennifer, speaking about Katutura, explains this uncanniness:

"After independence the people [...should] remove the names of the locations⁶ because we have names according to our ethnicity and it's kind of weird to go stay in a place where I am a Nama. I am described as a Nama and me staying in Wambo location, it's just kind of weird. [...] I feel like the names of the locations should be changed because it affects. Because like people look at you as a foreigner when you go to that location [...] that contribute to tribalism and it doesn't stand for what our nation is because our nation is one Namibia, one nation, but then that divides us."

Group identities, constructed by colonialism and apartheid and embedded in the urban landscape, continue influencing contemporary social interactions. They undermine a more inclusive sense of belonging by reinforcing an uncanny atmosphere of uncertainty, fear, and mistrust of others. Writing about South Africa, Edgar Pieterse considers this underlying spatial structure the 'deep code' of post-apartheid cities (Pieterse, 2010). In an urban environment not legibly designed for free movement or easy interaction, this deep code has been assembled by residents to construct an internal representation of perceived social differences. Rumour and hearsay were employed by the research participants as navigational strategies in an urban environment fraught with perceived dangers and areas considered off-

⁶ a local term for township, used during apartheid to describe Black and Coloured neighbourhoods.

limits. These gaps in participants' cognitive representations, spaces known about but not visited, are reminiscent of Vidler's dark space. Dark space is an interpretation of the philosophical voids underlying the conditions of modern estrangement, that space which eludes 'techniques of spatial occupation, of territorial mapping, [...] invasion and surveillance', hiding "in its darkest recesses and forgotten margins", those things that haunt the imagination (Vidler, 1992, p. 167). These dark spaces, haunting participants' imaginations, surrounded their home territories.

Conclusion

The research findings reported here reveal much about residents' unfamiliarity with Windhoek as a place, their lack of engagement with commonly visited public spaces, and their difficulties in developing a clear mental image of the city beyond their immediate home territories. Windhoek's collective character is a disorientating and uncannily unfamiliar and dissociative urban landscape in many places. Residents' mental maps rarely used streets as structuring devices when recalling the city's urban form. Streets remained unnamed and drawn as notionally connecting places without establishing any topological relationships. As a result, residents' mental images of the city were made up of territorial fragments with poorly understood connections, and interviews were striking in their lack of visual/spatial descriptions. Participants' mental maps also revealed the lack of human activity in streets as places of public interaction. In preferring to use details of social relations to describe Windhoek, participants revealed their lack of mobility and spatial experience within the city. Windhoek's current street and building codes, echoing colonial planning intentions, continue to reproduce streets as spatial tools for surveillance and control, designed for vehicular movement and not for pedestrians. In (re)creating streets as wide, empty spaces designed for efficient motorised traffic flow, with blank walls and deep building setbacks, the city's streets lack spatial features that could act as orienting devices. Sidewalks are not provided by the city, remaining the responsibility of individual property owners, and are especially insufficient in low-income neighbourhoods. The city's street network, the spokes of main roads radiating out from the city centre, are rarely crossed by residential roads, and don't connect between different income enclaves. Space syntax theory uses the measure of depth, which refers to the smallest number of spaces mediating the transition from one place to another. Networks that make depth asymmetrical by setting up non-interchangeable relationships facilitate control by limiting alternate connections (Mills, 1989). Windhoek's main and residential road patterns are highly asymmetrical, embodying relationships of categoric differentiation and control, and demonstrating that spatial relations are power relations. The city's hilly topography further distorts its street network, making it difficult to organise into a coherent or legible pattern (Fig 1). The effect this disorientating street network has on residents is to inhibit their mobility further, discouraging exploration and new spatial experiences and interactions. Participants' descriptions of daily unease and social discomfort can partly be ascribed to the negative influence of the city's illegibility on their sense of autonomy.

The mental maps of the Windhoek residents who participated in this research, even those who had lived in the city their entire lives, lacked cardinal orientation, Euclidean projections, common hierarchical cognitive organising principles such as a recognisable street pattern, views, or landscape topography arranging spatial layouts, with distortions unrelated to common spatial elements. Participants assembled abstract conceptualisations to compare contrasting, but not geographically adjacent, places. Their limited mobility was exacerbated by difficulties ordering the city's street network into a coherent pattern. These abstract

conceptualisations included describing places through social relations in an uncanny echo of colonial othering. This sense of social estrangement continues to reconstruct group identities and influence residents' spatial movement patterns in Windhoek 32 years after independence, thereby creating the uncanny psychological discomfort characteristic of participants' descriptions of Windhoek.

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