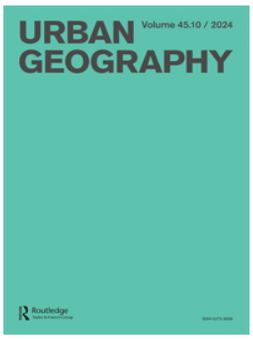

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Mitungi as … thinking about urban space and infrastructure with the jerry can

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ABSTRACT

At first glance, there is hardly anything more boring and mundane in the urban landscape of Nairobi than the plastic jerry can, or *mtungi* in Swahili (pl.: *mitungi*). An inconspicuous *thing* that is constantly used, re-used, and re-purposed but remains somewhat invisible in its ubiquity. Its most common and important function however is to contain, store, and hold water. Yet, given Nairobi's erratic and heterogeneous waterscape, mitungi do not just hold water for vendors and households. Rather, they hold the entire city together. Based on a longstanding connection to Nairobi as well as empirical research in 2021–2023, I present mitungi as more than just boring things or receptacles, but rather as incredibly multiple devices for engagements with African/southern urbanisms. Ultimately, my reflections argue for a joyful and unapologetic fascination with the supposedly mundane as an approach to engaging with contemporary cities, spaces, and infrastructures.

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Infrastructure; jerry can; mundane; Nairobi; storage

On a rainy day in 2018, in the backseat of an Uber. I am stuck in Nairobi's infamous rush hour. As cars and trucks fight for every inch of road space, people on foot zigzag between the cars. A young woman carries two bright yellow canisters filled to the brim with water across the street before disappearing behind one of the many roadside *hoteli* (restaurants).

"This whole city runs on containers," I think to myself, making a small note on my phone.

Years later, sparked by this tiny moment, my ongoing dissertation project examines mundane containers and everyday storage as infrastructural necessities in Nairobi (Kasper & Schramm, 2023), a city where – in the words of Wangui Kimari – most of its citizens "have been their own infrastructure for almost a century" (2019, p. 150).

In addition to the deployment of various practices, tools, labor, artefacts, networks, and various other human and non-human actors, being one's own infrastructure in

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contemporary Nairobi requires the use of myriad physical and virtual containers: large water tanks, batteries, cooking gas cylinders, cell phones, M-Pesa accounts.

In what follows, I will focus however on *mitungi* (sg.: *mtungi*), the mostly bright yellow plastic canisters that plaster the city's urban landscape, its streets, backyards, balconies, kitchens (Figures 1–8). In doing so, I will present some of the uncountable stories and roles that the mtungi can be described by: as standard, as infrastructure, as a node, as a thing in time and space, and ultimately as an approach to urban research in general.

All of these elaborations argue for joyful explorations of the urban mundane that continue the quest of quotidian investigations into the "Infrastructural South" (Silver, 2023). Post-colonial urban studies and the "infrastructural turn" have been instrumental in revealing a plurality of urban-infrastructural configurations that are not failing but are rather always incomplete, not messy but rather heterogeneous, not just informal but rather incremental and pragmatic (e.g. Guma, 2022; Jaglin, 2016; Silver, 2014, 2023). The mtungi serves here as a point of reference to advance these discourses, but also to remind us of the inherent and persistent injustices that permeate the urban space and infrastructures of Nairobi and other southern cities.

… standard

In *swahili sanifu*, in proper Swahili, the term mtungi refers to a pot, usually made of clay (Ali, n.a.). In Nairobi of today – among other connotations – mtungi is synonymous with the term jerry can, also called *debe* or otherwise in various vernaculars (Akallah & Hård, 2020).

The jerry can, or jerrican, was originally a standardized 20-liter gasoline canister made of metal, usually steel, invented in 1930s Germany and heavily used by the *Wehrmacht* (Simonsen, 2010). During and after World War II, the jerry can – getting its name from an Anglophone slang of referring to Germans as *Jerrys* – conquered the world as it was adopted and popularized by British and American armed forces (RCLSA, 2016). In its military beginnings, the jerry can was designed specifically to be a boxy, uniform, and easy-to-manufacture artefact with a handle that allowed for easy transport and storage of liquids (Simonsen, 2010).

In the second half of the twentieth century, the jerry can evolved beyond its metallic and militaristic origins and reached even the most rural areas of the so-called global South. There, and probably in many other geographies, the plastic jerry can become *the* storage and transport artefact for domestic water use, and it subsequently improved water access as much as it impacted gendered water practices (Sutton, 2000).

"We call them *Kuffour gallons*," said a friend from Accra, further explaining that, during the presidency of John Agyekum Kuffour in the 2000s, water shortages became so prevalent that the increased necessity to store water in plastic jerry cans led Ghanaians to name them after their president (cf. Alba et al., 2022).

Different places have different names, styles, stories, and place-specific usages, but my own travels and many accounts of colleagues confirm the ubiquity and prevalence of jerry cans as a quotidian container of water and other liquids across many geographies, especially but not only in southern cities. In the often-heterogeneous and often-fragmented infrastructural configurations of these cities, you can find the jerry can across different spaces, geographies, and strata.

Unsurprisingly, jerry cans – or specifically, mitungi – are an incredibly common artefact in public and private, commercial and domestic spaces across Nairobi also. Many differ from the classic boxy design but are round and bulky repurposed cooking oil canisters. Some still hold cooking oil; others hold gasoline or *muratina* (alcoholic beverage). Yet, the vast majority of Nairobi's mitungi – boxy or bulky – are used for water. To fetch it, to store it, to hold it.

Mitungi exist in various sizes and volumes in Nairobi, but the 20-liter one is the norm. A unit and receptacle upon which many household activities and local economies depend on. Prices by water vendors, for example, are usually calculated in mtungi. Two to five Kenyan Shilling for a self-fetched mtungi. Twenty or more for a delivered one. Ultimately, and quoting the work of Amiel Bize on the East African fuel economy, the importance and function of mitungi "inhere in their standardization as much as in their ability to contain liquid" (2020, p. 478). A metric by itself.

Similar to the shipping container becoming a symbol of standardized and globalized trade in the twentieth century (Levinson, 2016), the jerry can has quietly evolved outside its Western origins into a ubiquitous but inconspicuous standard *from below*, from the South, from and for many local economies, domestic activities, and infrastructural articulations.

… infrastructure

Late 2021, more than a year after the outbreak of the global Covid-19 pandemic. Together with colleagues from Germany and Kenya, I am visiting a borehole in the informalized settlement of Kibera (Figure 1). Erected by the Nairobi Metropolitan Services as an impromptu COVID relief intervention, the borehole is providing free water to some in the *kijiji* (village) of Silanga. Next to it, countless women and children are queuing to fill their countless mitungi with water.

"At the beginning everyone, the entire world, was like washing hands. Wash it, wash it," I am told there, reminding me of our initial fixation on and glorification of water-based hygiene practices as a means of containing the spread of SARS-CoV-2.

Also, throughout the city, the pandemic's hardship and a sense of heightened uncertainty – a sudden crisis on top of several other protracted crises – brought water availability into the spotlight (Schramm et al., 2023). Yet, water availability in Nairobi – as in many to most urban areas around the world – is not just about turning on a faucet. Rather, it is fetching, ordering, negotiating, paying, carrying, storing, borrowing, and many other water practices (Alda-Vidal et al., 2018; Kasper & Schramm, 2023). In all of this, the mtungi reigns supreme. Most of this would not be possible without the mtungi. While – and I am paraphrasing Prince Guma (2022) here – infrastructure in many southern cities is incomplete rather than broken, the mtungi is yet constantly trying its best to complete it, to "suture" it (de Boeck & Baloji, 2016). A Sisyphean task, an always-incomplete endeavor by itself.

In Nairobi, you can get water from metered taps or unofficial standpipes. From the utility, or largely unregulated water providers. From a gravity-fed network, from a borehole, from opaque sources. However, 24/7 water supply with a centralized and equitable system is currently a pipedream since Nairobi's utility can only cover two-thirds of the daily demand. Moreover, this inadequate supply disproportionately

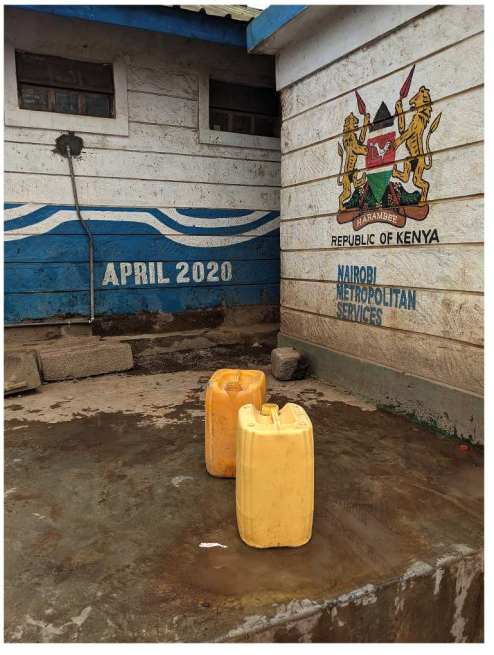

Figure 1. Two jerry cans at a newly erected borehole in Silanga, Kibera (2021), picture taken by the author.

Figure 2. Jerry cans in a kitchen in Canaan Estate, Kibera (2021), picture taken by the author.

affects poorer households and informalized areas, which often depend on sources besides and beyond the network (Mutono et al., 2022; Schramm et al., 2023). What all the various modalities of water access have in common however is the broken promise of *modern* infrastructure to provide consistently, universally, and directly.

In the everyday moments and spaces of broken promises – of spatial or temporal hydraulic disconnection – the mtungi fills the gaps. The gap between a water kiosk and your home. Between a mobile water vendor's source and his customers. Between the time water came through the pipes last week and the next scheduled water time. Between neighbors when they borrow water from each other.

With its in-between-ness, with its ambiguous role as a transport and storage artefact, the mtungi becomes part of a wider hydro-infrastructural configuration and, by itself, *de facto* infrastructure (Kasper & Schramm, 2023). Given the erratic and heterogeneous configuration of the city's water supply with its various inequalities and insufficiencies (Kimari, 2019; Wamuchiru, 2017), mitungi not only carry and hold water for households. They hold the entire city together.

They hold Nairobi together by suturing and stabilizing its socio-technically amalgamated waterscape. By being a metric that is universal, adaptable, and reliable. By entangling a variety of material and immaterial urban flows that connect people, economies, and geographies beyond the city. By providing an aesthetic, or rather poetic, of infrastructure (Larkin, 2013) that transcends socioeconomic and other categories in a city so often portrayed as fragmented and segregated.

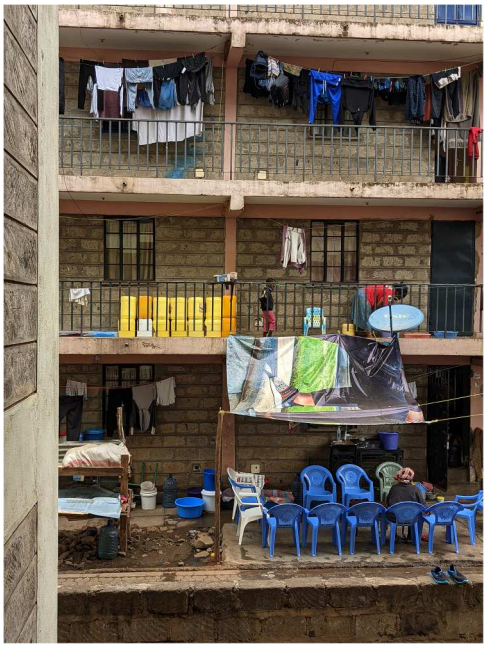

Figure 3. Jerry cans on a balcony in Canaan Estate, Kibera (2021), picture taken by the author.

Figure 4. Vendor handcart with jerry cans in Pipeline, Embakasi (2021), picture taken by the author.

… node

On a rather dry day in March 2022, the sun is beating down as my friend BM and I stroll through Kariokor, just east of Nairobi's central business district. The streets are lined with small plastic tanks and barrels, so-called *super drums*, buckets, emptied milk containers, and mitungi (Figure 6). So many mitungi.

Mitungi are sold all over the city. In small shops, stalls, kiosks. But Kariokor is *the* epicenter of the local to regional mitungi business.

Just as BM is kindly translating between me and an elderly mitungi saleswoman, a *boda boda* driver (motorcycle courier) stops abruptly next to us. Strapped to the small machine are a comically large number of empty plastic cooking oil canisters.

"He collects them from restaurants in town and sells them to me. We wash them and prepare them before selling them again," the elderly vendor explains later in Kikuyu.

Many others in Kariokor are involved in this economy of plastic water storage containers. There are brand-new, boxy mitungi made in Nairobi's industrial area from polyethylene imported from Asia, molded by local companies such as General Plastics or Nairobi Plastics. There are many repurposed canisters from restaurants, other businesses, and households. There are trucks loaded with empty mitungi that are transported and sold all over Kenya. "All the way to Turkana," one of the vendors claims, referring to Kenya's most northern and peripheral county. There are retailers, *boda boda* drivers, *fundi*, truckers, wholesalers, and regular customers. There is cooking oil

residue, there is water splashing, there is money changing hands, there is plastic welding. A cacophony of human and non-human actors, practices, materialities, and resources.

Eventually, many of the mitungi at Kariokor will end up in homes all over Nairobi, where they will be filled with water, emptied, filled again, stacked, cleaned, filled again, and so on. Until they fall apart. They will be used to fetch and store water from the network or a non-networked source. They will change hands. They will connect water sources to water uses.

This mundane, ubiquitous artefact – this incredibly "boring thing", to evoke Susan Leigh Star's (1999) infrastructural vocabulary – is a tiny but crucial and interstitial node that entangles, within itself and through the practices it necessitates, a world of relations, infrastructures, flows.

Together with its bigger siblings the *super drum* and the water tank, the mtungi is "where" networked and non- or post-networked infrastructures meet since everyone in Nairobi relies on them (Kasper & Schramm, 2023). It is "where" local to global flows of polyethylene, water, cooking oil, and money meet. It is "where" the rhythms and practices of infrastructural everyday life in an African city make visible larger spatialities and temporalities such as hydrological flows, colonial planning legacies, climate change and its daunting impact on water availabilities.

As much as the mtungi holds Nairobi together, it also connects it to a larger world that unfolds within it. Within but also beyond the 20 litres of its plastically enclosed Euclidean space.

… a thing in time and space

It is late 2023 as I am presenting drafts of this text at a conference, a workshop, in front of colleagues. There, and throughout my academic path, I have been surrounded by relational understandings of socially constructed space, or spaces. Lefebvre (1991), Castells (1999), Massey (2005), Löw (2008), etc. Conversely, the mtungi is a blatant reminder of good old physical, Euclidean container or vector space: x, y, z. A somewhat standardized volume that holds space, occupies space, and organizes space.

Figure 5. Jerry cans on a handcart and next to it in Westlands (2021), picture taken by the author.

Figure 6. Jerry cans for sale at Kariokor market (2022), picture taken by the author.

Yet, the mtungi is much more than that. It is a *thing* that – among many possibilities – allows me to think about an ever-expanding pluriverse of spatialities, spatial figures, and topologies.

I am reminded, for example, of Annemarie Mol and John Law's (1994) notion of "fluid space", which suggests thinking about spaces, networks and objects in less stable ways but rather with blurred boundaries. I am thus wondering "where" the mtungi begins and ends, what constitutes the mtungi. Is the mtungi as fluid as the fluids it so often contains? Fundamentally, mitungi share much with the *fluid* Zimbabwean bush pump as "an object that isn't too rigorously bounded, that doesn't impose itself but tries to serve, that is adaptable, flexible and responsive" (de Laet & Mol, 2000, p. 226).

With its fluidity and multiplicity, the mtungi also provides a stage for the entanglement, conflict, and discussion of various spatial figures, such as territorial space, network space, trajectorial space, and place. Those figures constitute the topological catalogue of the ongoing re-figuration of socio-spatial order(s) – from the everyday to the geopolitical – as described by sociologists Martina Löw and Hubert Knoblauch (2023). Respectively, the mtungi provides an entry point to some of such figures: network spaces of regional water flows and material networks of polyethylene; territories like the demarcated one of Nairobi's water utility or the fuzzy ones of private water vendors; places such as the home or household, or Kariokor as *the* market for water storage items. Finally, the mtungi reveals tensions and relations between these figures. For example, the idealized yet promise-breaking water network is dependent yet simultaneously undermined by water storage at very distinct domestic places. So much so, that the prevalence of mitungi at balconies is used by potential tenants in Nairobi to identify water supply issues before renting (Ashioya, 2022). The mtungi thus tells us about a re-figuration of urban infrastructures and the changing locus of infrastructural responsibilities from the territories and networks of the state and its proxies towards the places and networks of households, property owners, and the private sector.

Independent from specific spatial figures and spatial theory, the mtungi may further expand our view beyond both, physical and socially constructed space towards a fourth dimension. In regards to the currently unfolding "temporal/temporary turn" in spatial disciplines (Chang, 2021; Temenos & Lauermann, 2020), the mtungi provides again an entry point for the exploration and discussion of countless temporalities and rhythmicities. From grand histories and natural processes such as the longue durée of hydraulic infrastructures with their (deliberate) shortcomings in (post-) colonial cities or the alteration of hydrological flows through anthropogenic climate change (Kimari, 2019; Wamucii et al., 2021), both providing the volatile conditions in which the mtungi thrives. To specific moments in time or "infrastructural events' (Carse, 2017), such as a global pandemic, that highlight the importance of individual water storage and mitungi (Wamuchiru et al., 2022). To seasonal rhythms of water availability or the circadian rhythms of everyday water practices (Kasper, 2022) that depend on jerry cans. The mtungi speaks to and about all those temporalities.

Spatially fluid and multi-temporal, the mtungi offers a multiplicity of spatialities and temporalities for researchers and city dwellers to tap into. Through the mtungi, issues of urban-infrastructural inequalities become visible, not only and always for informalized or otherwise marginalized places, but throughout the city, throughout various locales and times.

Figure 7. Backyard with dog and jerry cans in Eastleigh (2022), picture taken by the author.

Figure 8. Jerry cans for sale in Zimmermann (2024), picture taken by the author.

… approach

The jerry can – this "humble technology" (Rijke-Epstein, 2021) – provides a very material, blatantly mundane entry point for diverse yet place-specific investigations into the urban and its infrastructures.

As my always-incomplete elaborations have pointed at, the case of the Nairobian mtungi shows the not-so-humble pluriverse of largely unexplored conditions, phenomena, time-spaces, space-times, and socio-technical intricacies of urban Africa (and elsewhere) that the mtungi still holds.

More so, trying to understand contemporary cities and spaces in Africa and elsewhere with a fascination of the supposedly mundane, the supposedly boring, is an approach that mitungi have given me, or rather hold for me.

They have allowed me to sharpen my perspective and approach to the study of urban space and infrastructure towards the quotidian without ignoring other scales. They help to examine broader landscapes and their ongoing re-figuration, for example for place-specific waterscapes, changing hydro-social relations, and larger value chains of plastics. They help to think critically about the locus of infrastructural responsibility. They tell stories about spatial figures, and how they may conflict in the domestic realm and in street markets. They can tie together different discourses and perspectives: post-colonial urban studies with its interest in the ordinary (e.g. Beier, 2023); new-materialism-inspired research about mundane artefacts or *things* of cities (e.g. Beauregard, 2015); STS-influenced infrastructure studies and their fascination with the socio-technical (e.g. Munro, 2020); the metabolisms of urban political ecology (e.g. Keil, 2005); and the growing body of literature on storage and its geographies (Randle, 2024).

Standing on the shoulders of decades of debates on post-colonial, socio-technical, and urban-metabolic readings of cities and infrastructures in Africa, the mtungi – and thus many other *boring things* that are invisibly ubiquitous – can provide a fresh entry point into the intricacies of quotidian infrastructuring, assembling, and worlding of cities from below (Alda-Vidal et al., 2018; McCann et al., 2013; Simone, 2001). At the same time – through its materialities, histories, and applications – it is holding questions of localized and globalized injustices. By embracing this, we can discuss place-specific expressions and the usefulness of rather classical descriptors – such as informality, scarcity, and fragmentation. Even more so, the fluidity and universality of

the mtungi helps to identify and discuss multi-faceted articulations of the urban and its infrastructures that so often elude orthodox, myopic readings of southern urbanism.

Ultimately, the mtungi is not only an object of investigation, a container, a standard, an infrastructure, and a node. Rather, in all its ordinariness and simplicity, it represents a heavily grounded approach and deliberate position for joyful explorations of the urban. This is not so much about the jerry can itself but rather a plea for more research, more fascination with anything allegedly boring and banal; material or not.

Also, and especially, as urban scholars, we tend to overlook easily what is in front of us. What is ubiquitous. What is invisibly visible. What is actually ordinary. And what larger narratives unfold from there.

Engaging with all this may initially be a largely descriptive, analytical, and academic task. Yet spatial practices in their various disciplinary forms can draw on it to understand and reimagine the city. To redesign it. To plan it through and with the mtungi, the battery, the *mkokoteni* (handcart), the donkey, the *superdrum*, the metal detector, the *monobloc* chair, the lightbulb, the soda crate – to name but a few examples from Nairobi.

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Data availability statement

Due to the nature of the research, supporting qualitative data is not publicly available to protect the privacy of interlocutors.

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