

Vanishing Points: Spatial Empathy and Surveillance in Sites of Control and Erasure

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Discipline

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Abstract

This essay examines how infrastructures of spatial control — including surveillance, enclosure, simulation, and border technologies — function as anticipatory systems: they do not merely observe and regulate in the present but actively script who may participate in imagining and inhabiting the future city. Drawing on interdisciplinary, practice-based research across former Cold War prisons, militarised desert simulations, and contemporary border architectures, the essay traces how visibility, data extraction, and territorial control intersect to regulate access, belonging, and visibility. Through site-based observation, archival research, participatory installation, and reflective field writing conducted between 2012 and 2023, it develops the concept of spatial empathy: an ecologically informed mode of relational awareness that resists the abstraction and dehumanisation inherent in these infrastructures. Integrating creative non-fiction, theoretical reflection, visual documentation and site-writing, the essay argues that spatial empathy offers a counter-practice capable of reorienting urban futures away from domination and towards shared ecological presence.

Introduction

Jane and Louise Wilson's video installation *Stasi City* (1997) opens inside the paternoster lift of the former Stasi headquarters in Berlin: a chain of doorless cabins moving on a slow continuous loop, fast enough to disorient a first-time user but not fast enough to threaten one. Bodies get on and off; the system does not. The Wilsons let a suspended figure drift through the building's non-time, alive and dead at once – both the ghost of those the apparatus once held and the apparatus itself, dormant but reactivable. When I visited the same building in 2022 I had not yet seen their work, but I recognised the affective register they had captured: the quiet horror of an infrastructure that feels emptied without ever being switched off. This is what an infrastructure of anticipatory control feels like from inside, and what this essay sets out to trace.

I argue that infrastructures of spatial control – including surveillance, enclosure, simulation, and border technologies – function as anticipatory systems: they do not merely observe and regulate in the present but actively script who may participate in imagining and inhabiting the future city. In doing so, they unevenly distribute the privilege of future thinking itself, collapsing bodies and territories into predictive and algorithmic abstractions that discipline visibility, mobility, and belonging. Drawing on interdisciplinary practice-based research across former Cold War prisons, militarised desert simulations, and contemporary border technologies, I propose spatial empathy as a relational counter-practice capable of reorienting urban futures away from domination and towards shared ecological presence.

Conceptually, this research engages critical infrastructure studies, surveillance theory, and spatial theory. My argument extends Foucault's analysis of disciplinary visibility (Foucault 1977) by attending to infrastructures that operate beyond the panoptic gaze (including through scent, sound, atmospheric calibration, and algorithmic abstraction) where being seen by the apparatus is decoupled from being seen by a watcher. Building on Easterling's account of infrastructure as an active political form (Easterling 2014), I treat built and digital systems as agents that shape behavioural possibility – what Klein calls 'scripted space', where physically designed environments choreograph action while sustaining an illusion of user autonomy (Klein 2004). Doreen Massey's relational conception of space as temporally layered – making the social, political, cultural, ecological always intertwined – helps frame how spatial relations impact perception and action (Massey 2008). Browne's analysis of how surveillance has historically been calibrated against Black bodies clarifies that the techniques I describe in Berlin and the Mojave do not invent racialised classification but inherit and extend it (Browne 2015).

Developed through artistic and embodied research across open and restricted desertscapes (Yoland 2024), spatial empathy describes an ecologically informed mode of relational awareness that resists the abstraction and dehumanisation inherent in infrastructures of spatial control. It foregrounds the capacity to sense, rather than merely observe and regulate, the entanglement of human, technological, and ecological agencies within spatial regimes. Bodies do not operate separately within neutral containers; they are always already embedded within atmospheric, ecological, and built conditions that shape perception and action.¹ Rather than offering a purely ethical appeal, spatial empathy functions as an epistemological and methodological orientation: one that challenges spatial control by re-situating bodies within shared conditions of vulnerability and interdependence.

This orientation aligns with ecological thinking, which decentres colonial perspectives on how land is perceived, measured, and managed (Yoland 2024; Crone et al. 2022). Where spatial control collapses land and bodies into single operational coordinates, ecological thinking insists on the multiple temporalities – geological, more-than-human, human – that coexist and intertwine within any site. It resonates with a systems-thinking approach to living organisms, social systems, and ecosystems (Capra et al. 2014), and with Coccia's theory of immersion: that all bodies and ecological environments are co-constitutive rather than discrete (Coccia 2018).² Although developed through ecological encounters, spatial empathy applies equally to architectures of confinement, where severance from atmospheric and temporal registers is itself the technique of control.

The analysis moves between historical and contemporary sites: former state security prisons in East Berlin, the militarised desert training grounds of the US Southwest (Fort Irwin), and contemporary geopolitical border architectures. Across these locations, visibility, data extraction, and territorial control intersect to regulate access, belonging, and visibility. These architectures are not relics of past regimes; through simulation, securitisation logics, and algorithmic modelling, they prefigure governance frameworks increasingly embedded within urban administration. Military rehearsal, carceral design, and border surveillance operate as laboratories for urban futures, shaping how movement, risk, and participation are calculated at city scale.

This essay is grounded in my work as a practice-based researcher working at the intersection of embodied research, spatial theory, and critical urban studies. My methodology combines site-based observation, archival research, participatory installation, and reflective field writing conducted across former carceral infrastructures and contemporary mil-

itarised landscapes between 2019 and 2023, alongside earlier research in US deserts and borderlands between 2012 and 2018. I approach these sites not as a military analyst or policy expert, but as a critical spatial researcher concerned with how encounters with such infrastructures condition perception, mobility, and collective futures.³ In this essay, I draw on my encounters within spaces of control to examine how techniques developed in restricted zones – prisons, borders, simulations – might migrate into civic and urban governance. By situating this research within discourses on infrastructure, surveillance, and predictive systems, this essay positions spatial empathy as a conceptual and methodological intervention within contemporary urban theory.

Presented as a work of creative non-fiction combining theoretical reflection with visual documentation and site-writing (journal entries), the essay juxtaposes past and present architectures of control to ask what kinds of futures are imagined, or foreclosed. Here, the future city appears as administratively structured rather than collectively emergent. By contrast, spatial empathy is advanced as a methodological and perceptual intervention that reorients urban imagination toward relational accountability and shared ecological presence.

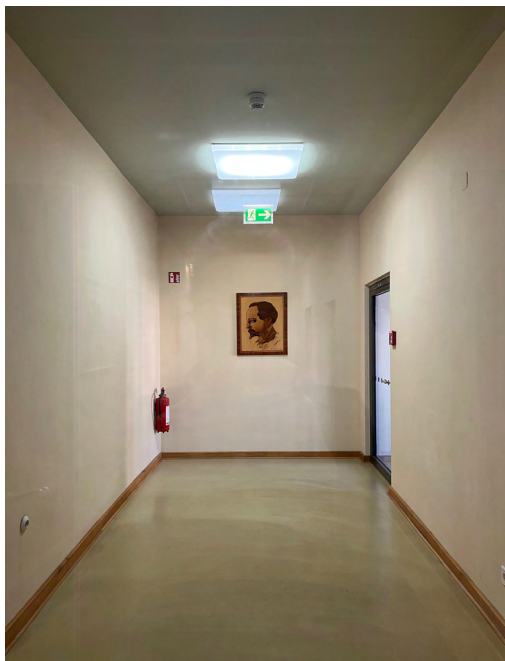


Figure 1. Corridor inside House 1: Former headquarters of the Ministry for State Security (MfS) of the German Democratic Republic (GDR, 1949–1990) and official residence of Erich Mielke; now the Stasi Museum Berlin, 2022. Photograph by: K. Yoland.

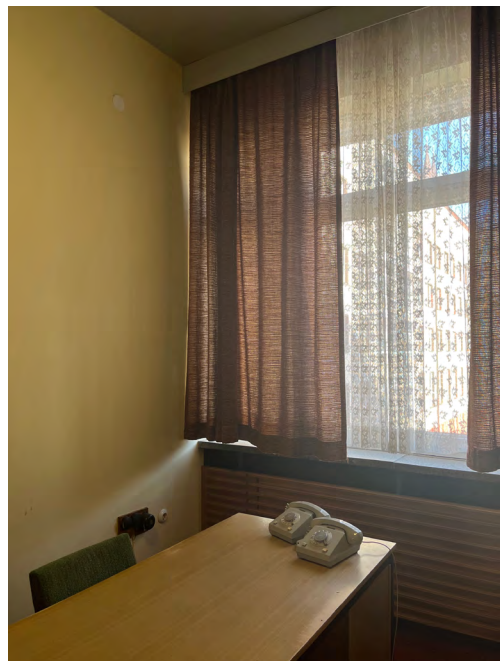


Figure 2. Office inside House 1: Former Ministry for State Security headquarters and official residence of Erich Mielke; now the Stasi Museum Berlin, 2022. Photograph by: K. Yoland.



Figure 3. *Remains of the Berlin Wall: location unspecified*, 2022. Photograph by: K. Yoland.

East Berlin: Infrastructures of control

In 2022 and 2023, I travelled to Berlin to research architectures of control in former Stasi infrastructures.⁴ I also walked the ghost space where the physical cut of the Berlin Wall once divided a city into opposing political systems from 13 August 1961 to 9 November 1989 [Fig 3], enclosing West Berlin first in barbed wire and breezeblocks and then into a concrete-clad island 155-kilometres in circumference.

Early on, walking in the cold alone, day after day, I tried to imagine this other era – what it meant to climb barbed wire and run for one's life, or to jump from windows when this became a borderline.⁵ Over time, the wall through central Berlin included watchtowers, gun emplacements, mines, various systems of walls, electrified fences, and fortifications. Towers were watching your moves. People were shot as they attempted to run across the 'death strip', a stretch between the inner and outer walls, filled with sand. Others attempted to make tunnels.

“This vertical transmission inverted the prison’s original logic: what had once been hidden below was now made visible only through machinic mediation.”

Yet beyond these images of violence lay a quieter mechanism: administration. As I visited memorials and preserved prison sites or headquarters, I observed what I call administrative disappearance – the reduction of bodies and histories into files, coordinates, and risk categories (Engwert and Knabe 2015). Sites visited included the former headquarters of the Ministry for State Security (MfS) of the German Democratic Republic (GDR, 1949–1990) and official residence of Erich Mielke (now the Stasi Museum Berlin); the former central Soviet custodial prison for East Germany, 1946–89 (now the Berlin-Hohenschönhausen Memorial museum); and the Soviet State Security Service prisons for political dissidents in Berlin-Karlshorst (1951–1963) [Including: Fig 1-8].⁶



Figure 4. Office interior: From the period of use as the central remand prison of the Ministry for State Security (MfS) for political prisoners (1949–1989), preserved as part of the Gedenkstätte Berlin-Hohenschönhausen (Berlin-Hohenschönhausen Memorial). Former functions include a central Soviet custodial prison for East Germany (1946–1949) and a Soviet camp (1945–1946), Berlin, 2022. Photograph by: K. Yoland.



Figure 5. Office inside House 1: Former Ministry for State Security headquarters and official residence of Erich Mielke; now the Stasi Museum Berlin, 2022. Photograph by: K. Yoland.

In Berlin, surveillance, partition, and confinement operated not only as repression but pre-empting dissent through spatial and informational containment. For example, in the former central Soviet custodial prison for East Germany, detainees had their scent captured on small fabric squares placed inside the seats at which they first sat for many hours being interrogated. These pieces of cloth were then kept in jars in case the detainee ever escaped or left and needed to be tracked by dogs. Samples were also taken from secret home searches, cars and crime scenes in which odour samples were extracted and used to identify dissidents in crowds and demonstrations allowing a much wider net to be cast and stretched across space and time (Deutsches Spionagemuseum n.d.). Scent was therefore both contingency (prisoner escape) and crowd identification (public action). In general, the coordination between wall, prison, informant, and diverse archive helped to form an infrastructural system: one that did not simply react to resistance but sought to forecast, isolate, and neutralise in advance.

Although the scent techniques were administered by the Stasi, the process repeated in the reunified Germany when the police used scent capture techniques for tracking activists at the G8 summit in 2007. This included taking “scent traces” from palm sweat, vests and cigarette lighters (Connolly 2007). According to Connolly’s coverage for the Guardian at the

time, scientists reported that scent could also identify age, sex and illness. This is an example of how future cities might inherit and evolve techniques from authoritarian pasts rather than discard them. At the time, the deputy speaker of parliament, Wolfgang Thierse warned of this leading to a police state and Petra Pau, a politician from the opposition Left Party, also warned the decisions were “another step away from a democratic state of law toward a preventive security state” (n.a. BBC 2007).⁷

Inside East Berlin’s repressive system, bodies were isolated, severed from social networks, and regulated by fear as a spatial technique. Listening and recording devices were planted into furniture, clothing, and equipment such as petrol canisters, and anyone could be an informant conscripted voluntarily or through threat. Confinement and coercion engineered isolation and fear, leading to forms of disappearance not solely through violence and standard prisons but through bureaucratic calibration which allowed people to feel imprisoned even in public or in their own homes not knowing who was an ally or a spy. This calibration of isolation, observation, and documentation constitutes an infrastructure of immediate and also predictive governance in which spatial control operates through administrative abstraction as much as physical force.

Walking through the remains, memorials and museums of the prisons, offices and headquarters, there was often a foreboding quiet. Moving through the maze of the prison, cells were left intact to provide context for another time but the prisoners and their guards had long gone. Heavy metal doors, footsteps and echoing corridors provided a dense, air-tight silence, punctuated by sudden reverberations. Padded windowless cells contained and absorbed sound and light [Fig 6 and 8]. And yet, I could imagine the conversations, shouting, screaming and crying that once took place. Here, fear and intimidation were produced through both overwhelming noise and the calculated absence of sound and external life.⁸

Journal Entry: February 2023, Berlin

The underground prison rooms are cold and no matter how many layers I wear it feels freezing: I walk through a maze of hospital-like corridors. Some of the cells contain windows; while others are in complete darkness, reminding me of solitary confinement in the current supermax prisons I am reading about in the United States. Who learned from whom? Here, there is no panopticon but it hardly seems necessary: the steel doors anchor the body to concrete, enforcing total stillness and silence.

Time is decimated here; the living body and the world are severed – no deep time, no human time, only the time of power.

The architecture reminds me of sci-fi horror and zombie films: Covered in sweat and blood, the body runs for its life yet loops around mazes, running from an unknown power they will never fully understand. In cinema perhaps power has materialised itself through the body of one killer or monster, which walks slowly through zones ignoring any spatio-temporal constraints. However, here in the prison, the unseen is a system – the archive, the state, the machine that sees everything while the human detainee sees nothing.

After six hours underground, the air feels weighted; the space is haunted, perhaps by those who were held here. This is a place of suspended time, where space ceases to be elastic. Something is blocked, perhaps not the site, but my capacity to think beyond confinement.

This experience demonstrates how spatial control regulates temporality itself: confinement as the management of time, perception, and relationality. In this sense, East Berlin's carceral architecture does not merely contain bodies; it restructures the conditions under which bodies may sense, imagine, and project themselves into the future.

The GDR's repressive apparatus was distinctive in its nakedness: exposed to international scrutiny, unconcealed by democratic procedure or the claim of technical neutrality. What migrates from it into contemporary governance is not the visible brutality but the underlying techniques: the



Figure 6. *Padded prison cell (top) and Wooden bed (bottom): former central Soviet custodial prison for East Germany (1946–1989); now Berlin-Hohenschönhausen Memorial Museum, 2022. Photographs by: K. Yoland.*

Figure 7. *Museum display of surveillance televisions: Former central Soviet custodial prison for East Germany (1946–89); now Berlin-Hohenschönhausen Memorial museum, 2022. Photograph by: K. Yoland.*

Figure 8. *Corridor with padded prison cells: Former central Soviet custodial prison for East Germany (1946–1989); now Berlin-Hohenschönhausen Memorial museum, 2022. Photograph by: K. Yoland.*

“It is spectacle
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alignment of spatial partition, informational capture, and bureaucratic documentation. These techniques now operate inside regimes that maintain a legitimacy facade the Stasi never possessed – embedded in algorithmic systems, smart infrastructures, and predictive analytics whose violence is harder to see precisely because it is dressed in efficiency.⁹

The haunting: the sheet and the body

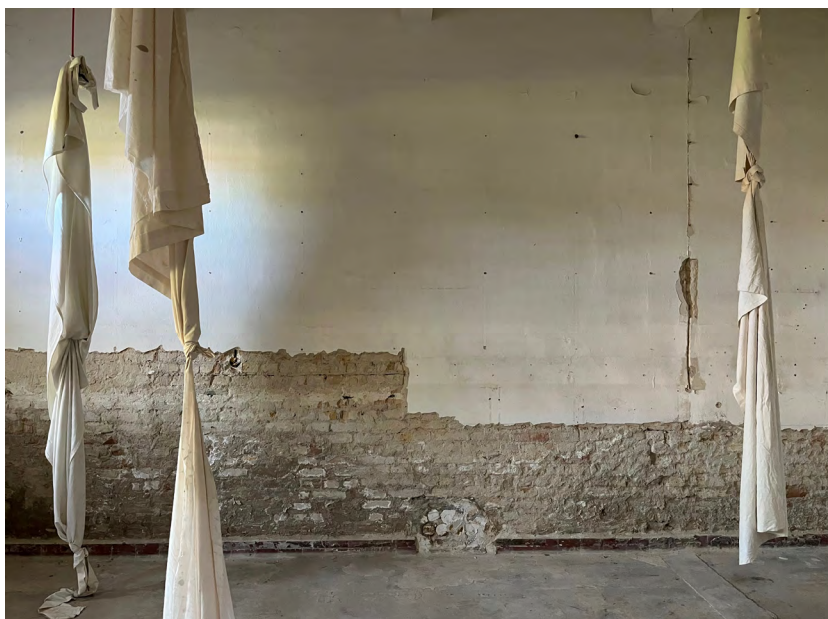


Figure 9. *Hung Up to Dry*: Documentation of installation in basement spaces formerly used by the Soviet State Security Service as prisons for political dissidents (1951–1963). Photograph by: K. Yoland.

In early 2023, I was invited by the artist and curator Elana Katz of House at the End of the World, to participate in a group exhibition in one of the former Stasi prisons. Now a university, it was a space where the Soviet State Security Service imprisoned political dissidents, who were tortured and interrogated on-site by the Soviet secret police (KGB) between 1951 and 1963.¹⁰

All work would have its own basement room/cell and these installations would be shown via video transmission. After my research in East Berlin and time on site, I focused on hanging three off-white sheets in a prison room [Fig 9-11] and called the work ‘Hung up to Dry’. The sheets were old bed and painter’s sheets. Worn and tired. Suspended from bungee cords, the sheets moved slightly because of three fans which I hid in the corners of the room. By setting up a surveillance camera, the existence of the cell and the sheets were cast into motion and digital visibility.¹¹ Sent

up to the world above, which was never allowed downstairs – a private haunting was made public. This vertical transmission inverted the prison’s original logic: what had once been hidden below was now made visible only through machinic mediation. The vertical divide between above and below mirrored the horizontal one that once split the city: walls, cameras, informants, and listening devices creating parallel worlds of knowing and unknowing. The detainee and civilian see nothing. The machine and the system observe everything.

Here vanishing begins – not mystical, but administrative: the condition of being seen only by machines, erased from citizenship, reduced to data:



Figure 10. *Hung Up to Dry: Documentation of camera view*, 2023. Photograph by: K. Yoland.

Figure 11. *Hung up to Dry: Documentation of fans and installation, former Soviet State Security Service prison basements*, 2023. Photograph by: K. Yoland.



Figure 12 (left). *Camera device: Documentation of camera device used for Hung Up to Dry, former Soviet State Security Service prison basements, 2023. Photograph by: K. Yoland.*



Figure 13 (right). *Hung Up to Dry at dusk: Installation documentation, 2023. Photograph by: K. Yoland.*

Journal Entry, February 2023 – Berlin:

Last night, I dreamed of a dark prison room partially illuminated with pulsing red light. Between pulses a person painted entirely in gold or silver appears. The colour of the paint changes depending on how long I think about it – a quantum slip-up. They have a machine-altering voice. And they're reading my site-writing: Desert Diaries. The scenes of violent lines in the sand, which I wrote about for ten years. The crowd was there. In the shadows. I put on my glasses:

The person reading my notes is in fact me. My other self opens a door, and outside the soldiers are shooting each other in eye-watering sunlight. The Iraqi woman with the biscuits crosses the frame crying. The cameras and umpires and note-takers hover from a roof. An open trap door becomes visible and a soldier tells me to head on down: "You'll cross the desert underground this time," he said, "We know you have seen the land up top, but now you will see our underworld. We will find you, don't worry. We know where we all are at all times."

These architectures of control do not remain confined to their original sites. They condition how futures are rehearsed.

Spatial Governance

My research in Berlin spanned six weeks, split across two years. It sat in the middle of other research I was conducting in the deserts of the US Southwest, which also revealed architectures of control: fortresses, restricted zones, and simulation cities where the US military rehearsed future wars.

Simulations represent an escalation of these prototypes – set apart from live urban governance and conducted as rehearsal rather than in the ‘real world’, as in East Berlin. However, both spaces constrain the spatial politics of future urban environments and prefigure their governance. Though rehearsed in remote desert terrains, the simulations exceed their geographic isolation. They model urban control as transferable and scalable, extending beyond declared battlefields into the grammar of civilian structures. Their operations occur largely outside public oversight, positioning the future itself as a restricted zone. Across Berlin and the desert simulations, their models of spatial control overlapped.



Figure 14 (left). *Fort Irwin NTC: Simulation town, Mojave Desert, 2019.* Photograph by: K. Yoland.



Figure 15 (right). *Map view of simulation village: Google Earth imagery of Fort Irwin NTC, Mojave Desert, 2020.* Tracking myself after the fact; Red and orange markers indicate my positions on the site. Produced as photograph, wallpaper and carpet, ‘On the Map’, 2020 and 2023. Image by: K. Yoland.



Figure 16 (top). *Speakers: Installed inside the simulation village, Fort Irwin NTC, Mojave Desert, 2019.* Photograph by: K. Yoland.

Figure 17 (bottom). *View: The desert surrounding a simulation village in Fort Irwin, Mojave Desert, 2019.* Photograph by: K. Yoland.

US Desert Simulations

In 2019, I visited a restricted military site for five days to observe simulation villages used in pre-deployment training for the Middle East [Fig 14-16]. Although vast and remotely located in the Mojave desert, it was approximately three hours from Los Angeles – home to Hollywood’s many fictions of fear and fantasy, and three hours from Las Vegas – with its fabricated landmarks such as the casino-replica Eiffel Tower and Taj Mahal.

When I first arrived, the zone for receiving new deployments was buzzing with organised actions that allowed soldiers to move from one location to another to begin rehearsing simulated warfare. Communications via satellite or voice-based instructions both punctuated and synchronised operations.

Alone, with no crew or colleagues, I navigated desert sets resembling Middle Eastern villages with only a military chaperone dialling in our coordinates each time we moved by truck or on foot. While I surveyed the site, the architects of the site surveyed and tracked me.

The simulations I visited were designed with the help of Hollywood set designers and pyrotechnicians allowing soldiers to move through mock streets, training for future wars. They were surrounded by a desertscape which felt endless – flat, warm colours, with the occasional mountain [Fig 17]. But GPS and maps relayed it in points and coordinates. Flattened into marks within a restricted void, it was rendered a sterile laboratory (Scott 2012).¹²

Inside the simulations, speakers are rigged to play a soundscape of fictional civilian life: children playing, adults talking, music coded as ‘foreign’ [Fig 16]. Fake mosques broadcast the call to prayer and scent machines are embedded in the sets to pump the smells of sweet tea and burned flesh. Actors are often Iraqi refugees posing as civilians, various professions and

leaders. They are instructed to speak Arabic during live training. Simultaneously, ammunition, Apache helicopters, and improvised explosive devices were prepared or deployed. Everything is recorded from hundreds of cameras outside and inside the tunnel systems, which are all viewed and recorded from a control building high on a hill [Fig 18].

In one rehearsal, performed for unknown visitors, a soldier stood on a rooftop and read a script describing the unfolding action [Fig 19]. From this elevated position, he narrated the present and anticipated future of the battle. During the first performance, I was not observing from the rooftop but positioned within the action itself. I had been momentarily left without my chaperone. Unaware the staged action was starting I encountered various architectures combining: the urban set which I was navigating and using to protect myself from smoke and action, and the architecture of spectacle and enforcement.

Journal Entry, January 2019 – Mojave Desert:

They forget to tell me it's starting, and suddenly I'm in the middle of a battle. I duck into a doorway, not knowing which direction the action will come from next. Guns, tanks and helicopters drop a variety of ammunition. I use my turtleneck to breathe as the room fills up with smoke. There is the odd sensation of being in and outside the action. Over speakers, a voice describes the present and future violence like an omniscient God, telling the invisible audience what they are witnessing. At the same time, my body is in the dirt, breathing black smoke, which will give me a sore throat for a week.

The fiction has found a way to create a real imprint on my body.

I was informed that throughout the training, referees observed soldiers and declared them injured or dead when hit. Surveillance teams monitored the action through cameras embedded in the sets, recording data and feeding it back into the system during post-training debrief.

While I did not hear the referees or listen in live to the surveillance teams I could imagine the complex and intersecting buzz of communication between departments, specialists and the designers of these fictions. For me, I experienced the ground and aerial equipment, actors and performed rehearsals, which surrounded the body with organised attack, movement, and communication. Meanwhile, the sounds of desert life persisted – sometimes masked by human-made noise, sometimes emerging more clearly

as military work paused or reset. Each night, as the sun dropped, I drove back towards my motel through a long, winding ravine. As the simulation receded, the vastness of scale, deep time, and ecological diversity returned: wind, insects, distance. The hour-long drive home became a decompression chamber, where the operational sound and action of war-as-performance gave way to more subtle desert happenings.

Scale is consequential here: it directs both perception and rehearsal, both of which become the future action shaping urban environments and bodies. Training imagines the disorientation of warfare inside urban environments and then disciplines it through cycles of repetition and feedback. The desert-as-stage becomes a looping sensorial and surveyed infrastructure of artifice, movement, and voice-based command. The site along with the smells and sounds allow the “representational” to become reality – embedded in past wars or cultural assumptions about the current or future warscape. To enter this space as an outsider is to be bombarded by infrastructural showmanship. It is spectacle engineered through abundance.

Desertscape contains a clear military presence, and yet a lack of boundaries surrounding them.¹³ Rachel Woodward’s book, *Military Geographies* (2004), examines the varied presence and negotiations of the military across land, and argues they have an invisible control of spaces and bodies outside war. Lack of academic literature on military land use, due to national security, allows their impact to go unmonitored. Woodward argues that if we don’t name/categorise what is happening then we allow the terms to be framed by the military, for example, “discourses of state, nationhood, sovereignty and security” (Woodward 2004, 7). Explicitly talking about these geographies keeps them in the public consciousness.

While Berlin is implemented live on the scale of half a city, the military simulation shows the transnational continuity and scalability of anticipatory infrastructures which can pre-empt action. Simulation then becomes a form of data/information logic and choreography of security models. Who controls the future city in simulation is privileged with weaponry, inter-linked surveillance, and decision-making authority. Civilians are usually excluded from this privilege and military bodies become one super-body defining limits of movement, existence, and future. While the infrastructure becomes a hive mind – alive and yet networked – the civilian becomes increasingly isolated and trapped within observation and information.

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Conceptual Positions

In previous research, I have used the term “spatial control” to describe the flattening of land, sites and bodies into “lines and points” – grids and coordinates that can be policed, surveilled, and severed from layered histories and memories (Yoland 2024).¹⁴ Spatial control in this context means drones do not see villages, forests or bodies, they only register targets in Cartesian space. However, in the case of the site work I have conducted in Stasi prisons and on the ground in military simulations, spatial control does not just operate through rationalist/sterile coordinate-capture but also through the affective distortions that are produced in the bodies subjected to it. In both the prisons and the fictional villages I visited the design and operational actions around the architecture of these sites resembled a maze-like infrastructure (layers of visible and invisible control), an enforced suspended time through the severing of other alternatives and an almost sci-fi dystopian horror which infiltrates the psychological experience of being contained, tracked or punished.

On the ground, movement may feel open, yet it unfolds within designed systems. Norman Klein calls this illusion of individual control, Scripted Space, which he finds evident in the spectacle of design in casinos, shopping malls, and places of worship (Klein 2004). The individual has the sensation of choice (e.g. they can choose between roads, shops and routes through the location) but the space is essentially designed for one end: to govern how they act and respond e.g. shopping, gambling or loyalty. This can also be perceived outside Klein’s case studies in outdoor public spaces where paths, barriers, sightlines, and flows choreograph the body’s movement and adherence to rules.

The prison sheet installation reveals this scripting: the lens captures disturbance, yet the apparatus behind it remains inaccessible. There is no “Wizard of Oz” curtain to peek behind; viewer agency is null; the camera scripts movement.

In contrast, I have tried to understand the opposite of spatial control through encounters with the scale and deep time of open US desertscapes. In earlier research I described this as an encounter with “spatial complexity” – space beyond the geographies of control. It is a weave of times, memories, ecologies, and more-than-human life, containing multiple pasts, presents, and futures, not always visible but constantly entangled like a superposition. This draws on Doreen Massey’s argument that space is not divorced from time – space breathes and heaves with ever-present temporal dimensions that can be thought of as intertwining histories (Massey 2008, 9). Spatial complexity exists everywhere, though it is often concealed in

dense urban environments where deep time and ecological life are obscured by built form.

In light of understanding spatial control and spatial complexity, a third term, “spatial empathy”, becomes a mode of practice in which complexity is chosen instead of control. It names a way of perceiving space not through dominance or mastery, but through relational attunement. Spatial empathy is not sentimental – it requires discomfort. It asks how to inhabit architectures of control critically, without reproducing their violence.

In the prison basement, the faint sound of the fans moves air through the sheets; above, a live feed reveals the same image without the fans visible. The camera sees the movement, but not the atmosphere. It translates air into pixels – presence into data. This is the paradox of the surveilled world: the more precisely we are recorded, the less we exist as beings. I argue that spatial empathy resists that logic. It is the insistence that sensing and imagining remain human acts – fragile, embodied, fallible. Spatial empathy extends equally to the more-than-human, not as gesture toward a wider moral circle but as recognition that any site holds geological, ecological, and human temporalities at once, and that infrastructures of control work by collapsing these into one.

Contemporary Technologies & Geopolitics

The relevance of these sites to “Future Cities” lies in their function as replicable or prototypes. The prison and the militarised simulation operate as experimental grounds where techniques of anticipatory governance are refined before entering mainstream urban administration. Contemporary cities increasingly rely on predictive analytics, biometric identification systems, algorithmic policing, smart infrastructure monitoring, and AI-assisted planning tools. These systems promise efficiency and safety, yet they operate through the same logics observed in Berlin’s archival bureaucracy and the desert’s rehearsal environments: classification, intervening before the fact, and data abstraction. When behaviour is modelled in advance, questions of authorship and authority over urban futures become unavoidable.

Alongside my research into former East Berlin and military desert simulations, there is a wider deployment of borders, drones, data extraction, and algorithmic mapping across urban and geopolitical contexts. Recent conflicts demonstrate how these technologies extend predictive control across dense civilian populations and contested territories.

Spatial control enables predictive systems to regulate who appears, who disappears, and which zones are designated as risk. This is acutely visible in Palestine and Ukraine, where satellite imaging, drone warfare,

signal tracking, and real-time mapping platforms render land and bodies continuously into data. For example, at certain checkpoints, without knowledge or consent, the Israeli military facial recognition system called 'Red Wolf' reportedly scans and logs Palestinian faces into a surveillance database (called 'Wolf Pack') (n.a. Amnesty International 2023; and Mozur et al. 2023). Over months and years, I have watched Google Earth update its maps as neighbourhoods in Gaza are reduced to dust [Fig 20-22]. Cities become interfaces, buildings become coordinates, and lives become pixels (also see Chamayou 2015).

Drone warfare displaces the operator's bodily risk while intensifying aerial oversight. In Gaza, drones hover above collapsing roofs and tents; in Ukraine, skies are saturated with drones, missile trajectories, and signal interference. Territory is gamified through damage metrics and digital feedback systems (Melkozerova 2025; and Walker 2025). What appears as technological advancement is also a recalibration of perception: war becomes infrastructural, continuous, and remotely administered.

When these systems produce mass civilian harm, their invisible registers – coordinates, target packages, automated decision chains – make accountability difficult to locate and easy to defer. On 28 February 2026, the opening day of the US–Israeli military operation against Iran, multiple Tomahawk missiles destroyed the Shajareh Tayyebbeh primary school in Minab, killing 156 civilians, among them 120 children, 26 teachers, and seven parents (n.a. Amnesty International 2026). The school had been walled off from the adjacent Islamic Revolutionary Guard Corps naval compound by 2016, with its own street entrance, but a preliminary US military inquiry attributed the strike to outdated intelligence, an attribution corroborated by independent investigations (Bowman et al. 2026; Feinberg 2026; Thomas et al. 2026). The site had become an abstract digital coordinate rather than a complex and evolving system of diverse life.¹⁵

What is rehearsed at the geopolitical extreme also migrates inward into civic infrastructures. The same logics shape mobility decisions, zoning, housing access, and security architectures within nominally civilian governance. The anticipatory city operates through sorting and intercepting, narrowing who may appear, belong, and participate in shaping urban futures.

Within this framework, spaces are increasingly designed to separate migrants, refugees, unhoused people, and those with mental health conditions from the wider population. Familiar instances span the UK's 2020 proposal to house asylum seekers on Ascension Island some 4,000 miles away (Foster et al. 2020), the floating Bibby Stockholm barge where Legionella was detected in 2023 (Castle 2023), the militarised squalor of the

Calais camps (MSF 2024; Cao 2025), US detention sites along the Mexico border, and Australia's offshore regime on Manus and Nauru (Amnesty International 2025). What these share is the rendering of populations as logistical problems to be relocated rather than communities to be supported. This logic is migrating into the management of citizens. In July 2025, US Executive Order 14321 directed federal agencies to expand involuntary civil commitment and to redirect homelessness funding toward jurisdictions that criminalise public camping. Its flagship is a planned 1,300-bed facility outside Salt Lake City – described by Utah officials as a 'transformative campus' with an 'accountability center', and by critics including the National Homelessness Law Center as a detention camp (Nawaz et al. 2025). These cases illustrate how infrastructures rehearsed for non-citizens can be turned inward.

Privatisation is accelerating this drift. Outsourcing converts the containment of bodies into a profit-making venture, giving contractors a material interest in sustaining the very populations they manage, fixing the future rather than allowing it to evolve collectively. In January 2025, ahead of the US Super Bowl LIX, Louisiana state police cleared homeless encampments near the Superdome and bused residents to a hastily converted port warehouse run by the state contractor Workforce Group, on a contract reportedly worth up to \$17.5 million (Nolan 2025).

The pattern extends to ecological registers. Smart-city sensing systems, satellite environmental monitoring, and predictive climate models treat ecologies the way they treat human bodies: as data streams to be optimised, coordinates to be tracked, futures to be modelled in advance. The data is flattened and severed from the living conditions it claims to represent. Ecological thinking refuses this rendering, holding land and life as relational and temporally layered rather than as resource flows.

In this context, spatial empathy functions as counter-infrastructure. It insists that land and bodies are not reducible to coordinates or data sets, and that sensing relational entanglement remains political. Against algorithmic abstraction, spatial empathy re-situates urban life within ecological and social interdependence: finding ways to live together – across human and more-than-human registers – rather than divide, segregate, and contain.

The Vanishing Point

The vanishing point is a fiction of perspective – a place where parallel lines meet but can never be reached. It is also a political metaphor: the convergence of control and disappearance within infrastructures that script the future as fixed.



Figure 20 (top and bottom). *Destroyed buildings: Google Earth images of destroyed structures in Palestine, 2025. Image by: Google Earth.*

Figure 21 (top). *Rashad Shawa Cultural Center: Google Earth images of the remains of the bombed Rashad Shawa Cultural Center, Rimal, Gaza, Palestine. Built in 1985 and bombed by Israel in November 2023, the site previously hosted Palestine Liberation Organization (PLO) leader Yasser Arafat and U.S. President Bill Clinton during the Oslo Accords in the 1990s. Image by: Google Earth 2025.*

Figure 22 (bottom). *Al-Yarmouk Stadium: Google Earth images of emergency housing (tents) installed within Al-Yarmouk Stadium; titled “Alermouk Stadium” in Google Maps), a venue with an approximate 9,000-spectator capacity, Palestine, 2025. Image by: Google Earth.*

In every site I study, something or someone vanishes – sometimes a body, sometimes a history, sometimes an idea of freedom. When predictive and surveillance systems structure urban governance, disappearance becomes administrative rather than accidental. It is embedded in design.

Spatial empathy becomes necessary as both method and ethic. It asks planners, designers, and citizens to resist reproducing the gaze of control – to refuse seeing only through the camera, the grid, and the dataset. It asks us to remain with the potential discomfort of opacity, to acknowledge what cannot be mapped or measured or fully understood. This resonates with Glissant’s “right to opacity” (Glissant 1997), not as refusal of relation but as protection from total capture and total categorisation. Spatial empathy is less a solution than a sustained practice of attention.

Ghost Futures & Pluralities

In Berlin, I left the sheets hanging in the basement for several weeks. Each day, light cast different colours across the fabric, and the hidden fans kept them in motion. No one from the public came down to watch; they were not allowed. Only myself, the maker, and the organisers were allowed to touch the matrix.

When I descended one last time to remove the sheets, I realised they had become portraits of air – records of movement otherwise unseen.

That is what the future feels like now: suspended between observation and erasure, between control and care. We inhabit systems that predict our movements, preferences, and risks, modelling urban life in real time and in advance. Yet the future, like the ghost, resists total capture.

To reimagine future cities as ecologies of empathy rather than architectures of domination is not naïve optimism. It is a structural reorientation. It means designing and governing urban spaces with awareness of ecological interdependence, historical layering, and shared vulnerability. It means recognising that spatial control and bodily prediction are not the only ways to plan and live.

Interdisciplinary creative and critical research – attentive to the fundamental interconnectedness of ecological, social, anthropological, spatio-temporal, and political modes of being – can hold open that space: a breathing interval between what is rendered visible and what is allowed to vanish. Such research refuses the abstractions that sever land, body, and history from one another, insisting instead on relational accountability across registers that infrastructures of control would prefer to keep apart. Within that interval, plurality remains possible.

Endnotes

- 1 In Philippopoulos-Mihalopoulos' book *Spatial Justice* (2015), he argues that the human body is always in an atmosphere in which the body is guided, controlled, and absorbed within the lawscape's parameters.
- 2 There is also a different use of immersion by Peter Sloterdijk which is informative and supportive for my analysis of spatial control. Sloterdijk argues that in living and working in built architecture, the human body is immersed within the limits of the design and scale and must cede control of the immediate environment in order to survive, live or move within that space (Sloterdijk, 2011). Peter Sloterdijk, 'Architecture as an Art of Immersion', *Interstices: Journal of Architecture and Related Arts*, 2011, 105-109.
- 3 I use encounter-as-method in alignment with Deleuze (1994) and O'Sullivan (2006).
- 4 The research was made possible thanks to the EU funded SPACEX project. Special thanks to my secondment hosts in Berlin: Susanne Prinz and Chiara Valci Mazzara of Verein zur Foerderung von Kunst und Kultur am Rosa-Luxemburg-Platz. The Spatial Practices in Art and Architecture for Empathetic EXchange (SPACEX) project is a cross-continental and cross-disciplinary effort bringing together academics and cultural organisations to build stronger networks and maximise the ways in which art, architecture and design promote empathetic ways of living together. Special thanks to Andy Hewitt, Mel Jordan, Jaspar Joseph-Lester, Emma Mahoney and Marley Treloar for their SPACEX support.
- 5 For example, the Finder Family including a four year old child were photographed jumping from the 4th floor on Bernauer Strasse 7 on September 22, 1961. Information is shared at the Berlin Wall Memorial on Bernauer Strasse. Other's, such as Ida Siekmann, died from attempting such a jump without street level help (August 22nd 1961).
- 6 Special thanks to Felix Müller of the Stasi Museum Berlin for guiding me through the history of the GDR's secret police and surveillance tactics.
- 7 See also the report by the Legal Team of the Republikanischer Anwältinnen- und Anwälteverein (RAV), *Feindbild Demonstrant* [translation: 'The Demonstrator as Enemy Image'], a first-hand account by the roughly 100 European lawyers who provided legal observation and defence during the 2007 G8 protests in Rostock and Heiligendamm. Available in German only.
- 8 On silence, please also see Saydnaya prison in which silence was used as a form of torture: n.a. 'Inside a Syrian torture prison: An acoustic survey of the Assad regime's Saydnaya prison', *Forensic Architecture and Earshot*; and Wainwright, Oliver. 'The worst place on earth': inside Assad's brutal Saydnaya prison', *The Guardian*.
- 9 Deutinger's *Handbook to Tyranny* (2018) is useful to compare systems across the world. He catalogues hundreds of such techniques across borders, prisons, and crowd-control tactics. It underscores how the Berlin Wall was never an isolated artefact but part of a broader, ongoing experimentation in territorial and bodily management, even as the political regimes now deploying these techniques become harder to name as authoritarian.
- 10 Located in Berlin-Karlshorst, the basements were used by the former Soviet State Security Service as prisons for political dissidents, who were tortured and interrogated on site by the Soviet secret police (KGB) between 1951 and 1963. The site served multiple functions over time: it was originally constructed as St Antonius Hospital (1930-1945); after the Second World War, it became the Soviet Military Administration (Economic Department of the Soviet Military Government) (1945-1951); subsequently, it housed the Soviet State Security Service (1951-1963); and later served as the headquarters of the GDR Ministry of Agriculture, Food and Forestry (1963-1990). Since 1991, the building has housed the Katholische Hochschule für Sozialwesen Berlin (KHSB), a university of applied sciences. In partnership with the Museum Berlin-Karlshorst, the basement installations were organised and curated by Elana Katz and Dario Srbić as part of *House at the End of the World* (HEW), a project space directed by artist and curator Elana Katz, in cooperation with Gallery KWADRAT. The exhibition, *EXIT IS NO OBJECT*, was held from 14 April to 5 May 2023. The surveillance system concept, design, and implementation were by Dario Srbić.
- 11 As noted in (1), the surveillance system concept, design, and implementation were by Dario Srbić.
- 12 Emily Scott has described military tests in the desert as theatrical stages that are 'laboratory'-like and sterile in their approach. See Scott, E. (2012) 'Desert Ends', in Kaiser, P. and Kwon, M. (eds.) *Ends of the earth: land art to 1974*. Los Angeles and London: MOCA and Prestel, 83. It should be noted that Fort Irwin has conservation initiatives on site, suggesting an acknowledgment that the land is not barren. However, the U.S military is legally obliged to avoid environmental damage.
- 13 For example, Fort Irwin military training grounds is

a high clearance zone and incredibly dangerous, (with live mines and tank battles,) however, there are no walls or fences around the site and it easily merges into the rest of the Mojave desert.

- 14 The concepts and research behind spatial control, spatial complexity and spatial empathy were developed in my PhD (Yoland 2024).
- 15 Including the New York Times, BBC Verify, Amnesty International, and Human Rights Watch.

“Here vanishing begins – not mystical, but administrative: the condition of being seen only by machines, erased from citizenship, reduced to data.”