When trying to describe cities to others, we often talk about how they feel. We reflect on their moods, their atmospheres. For the most part, this relies on ‘sensing out’ cities, attuning ourselves to their atmospherics as a way of ‘attending to what’s happening’, to follow Kathleen Stewart.\(^1\) Discussion of this sort is always a little imprecise, more deliberative than declarative. Styled as ‘vague’ and ‘elusive’, atmospheres necessarily resist the pull towards empiricism. But they are not entirely without an empirical claim.\(^2\) As Tim Choy insists, atmospheres contain material traces of the city’s toxicology, its pollutants and allergens, just as much as they register those less than material elements of its social, political and cultural life. In this way, any act of atmospheric analysis depends on a form of ‘condensation’, to borrow Choy’s choice term, aggregating the city’s diffusions ‘into something substantive’.\(^3\) This is not a solution to the problem of an atmosphere’s inherent instability. Instead, Choy prizes their relational character, the way atmospheres bring those sometimes insensible, often divergent and always kinetic traces of the city into a mutual, sensible structure of sorts. In this, he also follows Ben Anderson, who insists that atmospheres are ‘good to think with’. As Anderson elaborates, this type of atmospheric thinking encourages us to hold ‘a series of opposites – presence and absence, materiality and ideality, definite and indefinite, singularity and generality – in a relation of tension’.\(^4\)
It is with this heuristic aim in mind that we began our own atmospheric fieldwork in Johannesburg in February 2020, just a few weeks before the pandemic collapsed many of these potentially generative tensions into stark, seemingly insurmountable rivalries. In retrospect, this week-long project provided a final, comparatively honeyed glimpse of the city in a time before Covid-19, a time before this viral atmosphere imposed impossible restrictions – not just on urban society, but on the very idea of the city as an open, relational space. But, in other ways, it also provided its own bitter foretaste of the dangers posed by those unseen and otherwise insensible elements of a city’s atmospherics. For like many deindustrializing cities, Johannesburg is a place clouded by the toxic, if actively overlooked, remains of its industrial history. On a daily basis, carcinogenic particulates from its mine tailings drift with the weather across the city’s residential districts, posing a risk to life that is, over the long-term, just as lethal as Covid-19.

Meeting in a leafy suburb to plot out five days of site visits and meetings with residents as well as analysts of the city, these unfortunate coincidences were still beyond any plausible imagination. We had convened with the wider, perhaps more quotidian aim of attending to the city’s most stubborn, enduring feature: its racial exclusions. This malignancy is expressed most plainly in the many walls, barriers and infrastructural borders that pattern the city’s built environment, even still. In attuning ourselves to the city’s atmospherics, however, our aim was to think about the way these barriers also seep into its ordinary, felt experience. Put differently, we wanted to evaluate the relative porosity of the city’s concrete form, aggregating the feeling of vulnerability that also passes through and over its defensive, exclusionary architecture. Johannesburg has been long described as a city ruled by fear and anxiety, including most recently by Martin Murray in *Panic City*, where he details some of the many defensive technologies, such as high perimeter walls, security barriers and controlled access points, as well as new ambient technologies like networked CCTV cameras, infra-
red detectors and smart security devices that track suspicious users, all
adopted by the city’s wealthiest residents in an effort to secure themselves
against these fearful, largely divisive feelings.\textsuperscript{5} But, of course, architectural
and technological interventions can never eliminate these anxieties entirely
and, in many ways, may even serve to enhance them. Our aim, then, was to
target this emotional sphere in order to understand what else it may reveal
about the city’s stubborn defensive form.

This was, nonetheless, a tentative ambition. As a team of three, we under-
stood the city with varying degrees of intimacy and wanted to enable each
of our specific curiosities to direct our shared attention over the course of
the coming five days. For while we are united by a relatively ecumenical
interest in the urban sphere, we also retain relatively distinct disciplinary
skills and ways of looking at cities, from the historical and infrastructural
to the literary and cultural. In many ways, it was Jane Rendell who provided
the broader methodological basis for our fieldwork. In \textit{Site-Writing}, Rendell
not only defends the general turn to emotion as a form of cognition or
inquiry, but she also explores ways to unite ideas from literary criticism, art
history and autobiographical reflection with spatial analysis, offering up a
defence of specific disciplinary techniques like close and distant reading, or
optical and tactile identification within the spatial arena. Ultimately, for Ren-
dell, site-writing encourages us to analyse ‘spaces as they are remembered,
dreamed and imagined, as well as observed’, blurring the distinctions that
more often separate these ways of knowing a city.\textsuperscript{6}

We took this as both a general guide to our own cross-disciplinary fieldwork
and a more specific one, finding in the ‘to and fro between inside and out-
side’ that Rendell favours a suggestive echo for the atmospheric attention
that we also wanted to promote.\textsuperscript{7} As Niels Albertsten has it, atmospheres
serve as ‘border zones’.\textsuperscript{8} And the ‘double movement’ at work in site-writing
offered up exactly the type of threshold thinking we wanted to explore in
this project.\textsuperscript{9} For in our efforts to attune ourselves to the atmosphere of the
city by way of five very distinct sites, we knew that we would need to find ways to attend to its swirling, overlapping geographies and histories, from the deep, ecological time of the city's mines to the temporariness of its informal street trading, to say nothing of the many smaller, often exploitative histories that constitute the space between these poles. Rendell's model of site-writing encouraged us, therefore, to reflect on the city's simultaneity, to use our atmospheric attitude to uphold, rather than collapse, these contrary seeming pulls. As an extended form of fieldwork, this model also allowed us to give priority both to those narrow snapshots of thinking and writing that emerged on the day and the wide-angled reflections that developed as we each sat apart in our respective homes during the global shutdown that began in March 2020. Indeed, in many ways, this fieldwork is still ongoing within the StoryMap (Fig.1) we developed during these early months. For even as it captures one moment in Johannesburg's history, it also remains open to future layering as something of an evolving repository of the city through time.

Armed with a camera and a notebook each, our site visits began in the historical centre of the city, originally little more than a small parcel of surplus land when it was purchased in 1886 to serve the mining industry quickly growing at its border. Endlessly reimagined by city planners and business representatives, the Central Business District (CBD) has long been the target of projects designed to improve and restore its place in the city's urban ecosystem. In almost all of these recent initiatives, however, security has been the guiding principle – that is, making certain parts of the city available for safe use, at least by some. The result is a patchwork of improvement districts, where the municipality participates in a select series of strategic public-private partnerships, leaving other streets and blocks unmanaged. Here, highly controlled spaces are broken up by informal activities like open air markets. And these alternative geographies allow for some contradictory effects, with many private, corporate spaces feeling open while public spaces have been increasingly fenced off. We were
Fig. 1. The digital StoryMap we developed.

Fig. 2. The fences surrounding retail seem to undermine the principle of ‘active frontages’, leading to decreased business.
guided through these contradictions by a group of architects and designers who had recently helped to renew one of these public-private districts. They drew our attention to the soft edges that had been added to the corporate infrastructure in order to encourage office workers to make use of this securitized private-public realm (Fig. 2). But we also witnessed the fences that had been installed around municipal buildings, cutting off access. Our photographs are full of startling incongruities. Our field notes, which accompany these images, too:

*To find the central library now secured by peripheral fencing is to query the fundamental values of the public realm, access to a sphere of knowledges and thinking that might challenge this model of urban development. Is it freedom of thought, rather than merely movement, that is now policed by this environment? Something similar may be said of the encamped magistrates court, which appears bent on defending the state from dissent, arguably anathema to any common law system of justice.*

In search of a more open, public environment, we moved a little north to Constitution Hill. Formally designated the Human Rights Precinct, the area retains the sturdy remains of the city’s colonial Old Fort as well as the new Constitutional Court. In this way, it serves as a self-conscious palimpsest, where layers of history fold in on each other. And the entire precinct has also been imagined as a space without walls, an exemplary, open precinct in a city all too often barricaded against itself. It allowed for other, more expansive reflections, too, encouraging us to draw from our own experiences of other divided cities, as our field notes attest:

*Reminded of the Reichstag building in Berlin – weighed down by nationalist and Nazi history, it was at first uncertain how it could ever serve as the seat of a democratic parliament. But as in Johannesburg, the re-definition of the space was made possible by setting its new character up in opposition to the site’s history. Paint was stripped off and layers were exposed, rather than trying to cover them up.*
However, Constitution Hill’s open status (Fig. 3) is not reflected in its ordinary use. It remains a stubbornly empty space. Not only is it heavily patrolled by private security, but somehow the colonial history of the site still overshadows its future potential. Perhaps it is the fact that the heritage complex, with its associated museums and art collections, appeals, ultimately, to international tourists, rather than the city’s residents. Writer Mark Gevisser has described it tellingly as the city’s ‘absent centre’. And our own route through this space felt equally hollow. Our images of the site feature suggestive works of art and symbols, each of which attest to the pursuit of justice and a more equal future, but they are almost entirely unpeopled.

Shuttling east to the adjacent residential district of Hillbrow, we alighted on a space transformed demographically and culturally since the arrival of democracy in 1994. Perched on the ridgeline that runs along the northern edge of the CBD, Hillbrow’s natural elevation is further exploited by the many high-rise apartment buildings that populate the two districts. The residential blocks were built originally to house wealthy white professionals working downtown during the 1950s and 1960s, but were among the first to be abandoned with the retreat of many businesses to the northern suburbs in the 1980s. By the early 1990s, Hillbrow had become widely mythologized as Johannesburg’s criminal heart. But the district is also the landing point for many migrants to the city, internally as well as from across the African continent. And today a black, largely professional class mixes with migrant workers in search of opportunity in one of the most densely populated square miles in the city. While it is certainly not free of the inequalities that afflict the city at large, we did discover a thick record of its relative hopeful-ness at the base of the district’s most prominent building, Hillbrow Tower (Fig. 4), where hundreds of notices are plastered to a wall, advertising rooms, balconies and beds to rent on a daily, weekly or monthly basis.
Fig. 3. The original stairwells to the Awaiting Trial Block of the prison complex, since amended with striking lightboxes.

Fig. 4. Wall beneath Hillbrow Tower advertising rooms to let.
By contrast, the Northern Suburbs offered a contrasting, entirely alienating residential picture. Barricaded neighbourhoods, security townhouse complexes and gated residential estates are a distinctive aspect of Johannesburg’s suburban fabric, but particularly here in the communities that grew up in the 1970s and 1980s around Sandton, the region’s prime business hub popularly labelled the ‘richest square mile in Africa’. Securitized living arrangements take several forms. For instance, so-called ‘security complexes’ tend to group townhouses around shared driveways, gardens and other amenities. ‘Gated estates’ are similar, but include freestanding homes, along with landscaped gardens and other leisure facilities, all bound by a large perimeter fence or wall topped with electric fencing, and round-the-clock access control at fortified entrances. Walking around these neighbourhoods (Fig. 5), we are regularly greeted by security officers paid for by residents, permitted to move freely through gates and around barriers, our whiteness enabling entry into this otherwise inhospitable, highly securitized environment.

Our journeying through the city eventually went full circle, taking us out to the former mines of the Western Rand and returning us to the material wealth that originally brought the city into being. To drive from Johannesburg proper to the gold and uranium mine dumps of Krugersdorp (Fig. 6), a journey westward of some 40 minutes or so, is to experience a sense of their plausible separation. Nonetheless, the nature and the scale of the tailing’s toxicity quickly collapses this feeling, leaving us with a clear view of their ongoing and devastating proximity. We are led through this startling environment by a local activist, Mariette Liefferink from the Federation for a Sustainable Environment, who maps out for us the hundreds of tailings dams that surround Johannesburg. Containing elevated concentrations of heavy metals, including uranium, their fine-grained sandy constitution means that radioactive dust regularly blows onto informal settlements and planned residential developments nearby. According to the West Rand municipality, up to 42 metric tonnes escapes into the air every day.
Fig. 5. Map of Parkmore Central’s access-controlled streets.
Fig. 6. The radioactive metal sludge transported through these pipes remains even after the mining company’s processing is completed, and valuable metal pipes deinstalled. The gold has been extracted, the profit has moved elsewhere, but the toxic fallout remains in place.
And it is not just their visible discharge, for these tailings also contain unseen, waterborne toxins that leech into the local aquatic ecosystem. ‘Acid mine drainage’ is a phrase that we hear again and again as we move through this landscape. Indicatively bitter in its staccato form, it is the principal poison that threatens to deform, if not destroy, life here and elsewhere downstream.

Downtown Johannesburg, just over the horizon, tries to claim a degree of immunity before these material toxins. But the measurable concentrations of contaminated water and radiation that encamp the city every day are hard to ignore when you are on site. Indeed, to hear of radioactive bricks, rendered from clay deposits in the area and now propping up walls across the city, is to recognize something of the way in which this toxicity breaches the city’s imagined defences. Johannesburg may be a city built from the profits of gold mines, but it is also a city built out of their poisonous remains, and not just materially. The mines stand as the visible manifestation of a much longer, enduring, extractive history. We tried to gesture at this buried, toxic atmosphere as we photographed the area, capturing water foaming with heavy, ferric particulates and vast sandy dunes inhospitable to vegetation of any sort. But we were also abundantly aware of those less than visible elements in the air, namely radiation, that would require far more technical forms of observation and analysis.

In some ways, then, our fieldwork alerted us to the inadequacy or, at least, the partiality of our initial observations, which depended, for the most part, on photography and written notes, taken as we walked through the space. Reflecting on what we had documented over the preceding five days, we knew that we would need to supplement and enrich these initial findings with further atmospheric evidence. In setting up the principles of site-writing, Rendell takes seriously the ‘spatial qualities of writing’, insisting on the equality of form and content when it comes to ‘conveying meaning’. Rather than try to perform a kind of remote, scholarly account, we therefore
began to experiment with other, thicker, digital forms of writing and cartography in an effort to approximate our own atmospheric attention. Specifically, in turning to ‘ArcGIS StoryMaps’ as a way of site-writing, we found ways, in the first instance, to embed our photography and notes in the city itself, mapping the places from which they first surfaced. But this platform also encouraged us to draw other located ephemera into our atmospheric reflections, allowing us to juxtapose, for instance, descriptions of place from novelists and poets in an effort to complicate our own sensory attunements and feelings. Despite publishing a preliminary version, from which we have drawn in these notes, for us it remains an entirely provisional record, an open description liable to shift with the city’s own unstable atmosphere.

7 Ibid., 14.
8 Albertsen, op. cit. (note 2), 4.
9 Rendell, op. cit. (note 6), 14.
11 Rendell, op. cit. (note 6), 11.