Cape Town's "Day Zero" Drought: Notes on a Future History of Urban Dwelling

Nick Shepherd[1, 2,*]
[1]Aarhus University, Aarhus, Denmark
[2]University of Pretoria, Pretoria, South Africa

*Corresponding Author: Nick Shepherd, Aarhus University, Moesgaard Alle 20, Højbjerg 8270, Denmark; University of Pretoria, Hatfield, Pretoria 0002, South Africa. Email: ns@cas.au.dk

Abstract

Taking the events of Cape Town's "Day Zero" drought as a case study, this article examines the politics and poetics of water in the Anthropocene and the implications of Anthropogenic climate change for urban life. It argues that rather than being understood as an inert resource, fresh drinking water is a complex object constructed at the intersection between natural systems; cultural imaginaries; and social, political, and economic interests. The extraordinary events of Day Zero raised the specter of Mad Max–style water wars. They also led to the development of new forms of solidarity, with water acting as a social leveler. The article argues that events in Cape Town open a window onto the future, to the extent that they tell us something about what happens when the added stresses of climate change are mapped onto already-contested social and political situations. They also underline the precarious nature of many of our urban arrangements. This sense of the precarious is likely to extend beyond the case of Cape Town and to be an abiding feature of urban life as we journey deeper into the Anthropocene/Capitalocene.

Keywords: Anthropocene futures, Cape Town, "Day Zero", water, hydrocitizenship, precariousness

Cape Town under the Cloud of the Anthropocene

Cape Town, South Africa, has been in the news recently, as a city that announces a new kind of urban consciousness as we continue our journey into the Anthropocene: a consciousness bound up with ideas of critical resource scarcity, the breakdown of everyday life, improvisation, and the sudden closing down of timelines and expectations. The news from Cape Town introduces us to the idea of rupture, perhaps the first of many as climates change and other big cities face their "Anthropocene moment." In this article, I interpret this moment of rupture as an invitation to think in new ways about experiences of urban dwelling, history, relatedness and being, outside—or after—the tropes of heritage, development, and community and urban design. There is a way in which discussions around such topics get sedimented down in familiar vocabularies and ideas, that sometimes prevent fresh thinking. This is certainly the case in Cape Town, a city which, since 1994, has cycled through various iterations in thinking about itself as a global city of a certain kind via a burgeoning discourse on development and urban renewal: as a multicultural city (Robins, 1998), a heritage city, a "global design capital" (Ernsten, 2017a, 2017b, 2017c), and as host to a "natural wonder of the world" (Shepherd, 2015). Few of these formulations begin to touch the disjunctive and unsettling experience of dwelling in a city that remains by many accounts the most racially divided city in South Africa.

Adding a layer to this argument—which is an argument in favor of fresh thinking—and referencing the work of Bruno Latour, Dipesh Chakrabarty, and others, I would argue that one of the effects of the discussion around the Anthropocene is to throw into doubt core assumptions around time, history, and agency (Latour, 2014). In his essay on "The Climate of History," Chakrabarty makes an astonishing admission. He writes:

> As the crisis gathered momentum in the last few years, I realized that all of my readings in theories of globalization, Marxist analysis of capital, subaltern studies, and postcolonial criticism over the last twenty-five years, while enormously useful in studying globalization, had not prepared me for the

> making sense of this planetary conjunction within which humanity finds itself today. (Chakrabarty, 2009, p. 199).

He goes on to wonder what it will mean to think and practice, as he puts it "under the cloud of the Anthropocene" (Chakrabarty, 2009, p. 212). Taking Chakrabarty's challenge to heart, and thinking from the place of my own disciplinary training in archaeology and heritage studies, and from my research biography, which has been entangled with the city of Cape Town, I want to think about the social meanings of water: about what happens when the taps run dry, about the politics and poetics of resource scarcity, and about what all of this has to say about the business of living in the city.

The story that I present here unfolds in five parts, or acts. Part one tells the story of how Cape Town made global news headlines, as a ground zero of Anthropogenic environmental change. Part two makes a tentative case for water as a social leveler. Part three describes a surprising intervention. Part four reviews some contemporary conceptualizations of water, as a complex object constructed at the point of intersection between natural systems; cultural imaginaries; and social, political, and economic forces and processes. Part five takes the form of a set of field notes from the future. Throughout this short article, my concern is with what events in Cape Town tell us about future histories of urban dwelling, as climates change and once taken-for-granted resources and infrastructures break down. A second concern is with the changing meanings and values of water—and of other objects and infrastructures—as they become suddenly visible at the moment of breakdown, and enter our lives with a new poignancy and urgency.

Act 1: Mad Max in Cape Town

In mid-January 2018, a story broke in the global media: Cape Town, a city of some four million inhabitants, was running out of water. The immediate catalyst for this media attention appears to have been a statement made by Cape Town Mayor Patricia de Lille on Monday, January 15, in which she said:

> Cape Town's average daily consumption is still too high. It has increased to 618 million liters per day, up from 578 million liters (the previous week). For each day that Cape Town uses more than 500 million liters, the city moves closer to Day Zero. (*TimesLive*, 2018)

Based on current consumption, she announced that Day Zero would arrive on Sunday, April 22. Day Zero—the day when city managers would cut off water supplies and the taps would run dry—was calculated based on storage capacity in the five major dams that feed the city's water supply. The final 10% of water in the dams is effectively unusable, so Day Zero was pegged against the point at which dam levels fall to 13.5% of capacity. At the date of de Lille's announcement, dam levels stood at 28.7% capacity, with little immediate prospect of rainfall.

On January 12, days before de Lille's announcement, the *BBC*'s Gabriella Mulligan reported: "Cape Town, home to Table Mountain, African Penguins, sunshine and sea, is a world-renowned tourist destination. But it could also become famous for being the first major city in the world to run out of water" (Mulligan, 2018). However, it was de Lille's statement setting a date for Day Zero, and thereby moving it from the realm of hypothetical possibility to imminent catastrophe, that unleashed a torrent of news (Shepherd, 2019, 2020). On January 15, Aryn Baker reported for *Time* magazine:

> Cape Town is 90 Days from Running Out of Water: 'After three years of unprecedented drought, the South African city of Cape Town has less than 90 days-worth of water in its reservoirs, putting it on track to be the first major city in the world to run out of water.'

The report continues:

> What happens when the taps are turned off? Cape Town enters Mad Max territory (well, almost). Residents will have to go to one of 200 municipal water points throughout the city where they will be allowed to collect a maximum of 25 liters (6.6 gallons) a day. Armed guards will be standing by to keep the peace.. . . (Baker, 2018)

On January 16, the story was picked up by the *Mail Online* version of the *Daily Mail* (2018), *EcoWatch* (Chow, 2018), and *Al Jazeera* (Child, 2018). On January 18, Trevor Nace ran the story for *Forbes* magazine under the headline: "Mad Max Scenario: Cape Town Will Run Out of Water in Just 90 Days." It continues: "The severe water shortage is due to a three year, once in a millennium drought. . . Most climate models predict that as global temperatures continue to warm, South Africa will continue to receive less and less precipitation" (Nace, 2018). On January 19, the *Los Angeles Times* ran the story (Dixon, 2018), as did *CBS News* (2018). On January 24, the BBC's Mohammed Allie reported: "Cape Town water crisis: 'My wife doesn't shower anymore'" (Allie, 2018). That same day, the journal *Nature* ran the story under the headline: "As Cape Town water crisis deepens, scientists prepare for 'Day Zero'" (Maxmen, 2018).

And so it continued. Cape Town was facing its Anthropocene moment. This is a moment, which is likely to face many, perhaps most, large cities in the coming decades, and which will take many forms: fire, flood, drought, mudslide, or the slow breakdown of infrastructures and institutions. In the case of Cape Town, it took—and is taking—the form of a combination of factors: an aging infrastructure; rapid population growth over the past few decades as economic migrants have poured into the city from the surrounding hinterland; a severe and largely unpredicted 3-year drought; and chronic political infighting between the ruling Democratic Alliance (DA) and the African National Congress (Shepherd, 2018, 2019, 2020). This combination of social, political, economic, and climatic factors delivered up a potent moment—an Anthropocene moment—when anxieties about the future and apocalyptic imaginaries meshed with conditions on the ground, falling dam levels, and the torrent of facts and figures reported in the news, and delivered up on websites like the City of Cape Town's own "Water Dashboard" (Robins, 2019). The rhetorical power of the notion of "Day Zero"—a powerfully compressed metaphor containing within itself the idea of a countdown, the scene of a disaster (a ground zero), and an apocalyptic end-time—captured public and media attention and expressed the particular nature of the unfolding catastrophe (Shepherd, 2019, 2020).

One of the themes of many of these news reports—in fact, a hook for journalistic interest—was the prediction of chaos. Mad Max scenarios imagined a quick slide into anarchy as city residents battled one another for scarce water resources, or as local warlords and gang leaders seized control of water points and extorted money from city residents. On January 22, Helen Zille, the Premier of the Western Cape province, which includes Cape Town, and thus the highest-ranking local politician, wrote in the popular online news site, *The Daily Maverick*: "The question that dominates my waking hours now is: When Day Zero arrives, how do we make water accessible and prevent anarchy?" She continues:

> As things stand, the challenge exceeds anything a major City has had to face anywhere in the world since the Second World War or 9/11. I personally doubt whether it is possible for a city the size of Cape Town to distribute sufficient water to its residents, using its own resources, once the underground waterpipe network has been shut down. (Zille, 2018a)

And, indeed, the city's contingency plans did not look promising. Come Day Zero, municipal water would only be available at 200 Points of Distribution (PoDs) across the city, where residents would need to queue for a daily ration of 25 liters of water per person. An infographic published in the *Daily Maverick* breaks down the numbers: 200 PoDs to service a city of 4 million inhabitants mean—assuming that some people make alternative arrangements—10,000–15,000 people could be expected to converge on each water point every day. It takes 2–3 minutes to fill a single 25-liter container. The queues would be endless, beyond imagination. Some people would be filling up on behalf of their families. This creates the practical problem of shifting 50–100 kilograms of water. Identity checks would need to be in place at the PoDs to prevent water fraud, entailing further delays. Vehicle traffic in and out of the PoDs would be hellish. For those reliant on public transport—the majority of the city's population—there would be a different kind of hell. Without flushing toilets and running water, and with residents spending hours each day queueing at PoDs, schools and businesses would need to close. Functioning economic life as we know it in the city would cease to exist or would be severely curtailed. Without a functioning waterborne sewerage system, and with limited water for washing, the

risk of epidemic diseases would be vastly increased. For many, this was an almost unimaginable scenario, outside of war zones or scenes of natural disaster.

In any average city, this would present city managers with prodigious logistical challenges, but this is Cape Town, and Cape Town is far from being an average city. At this point, it becomes necessary to sketch, as it were, a tale of two cities. According to *Census 2011*, Cape Town had 1.068 million households. Of these, 12%, lived in "informal structures," that is, shacks made of corrugated iron and salvaged materials. Nearly 36% of households lived below the poverty line of less than ZAR 3,500 (approximately US$250) *per household* per month. An average household might contain four or five persons. In 2011, 97.3% of households were dependent on a regional or local water scheme (i.e., municipal water). Around 10% of households did not have access to a flush toilet (City of Cape Town, 2012). According to a *State of Cape Town Report 2016*, the most recent comprehensive report on the city, youth unemployment in the city was estimated at between 45% and 46% (City of Cape Town, 2016). On March 7, 2018, *BusinessTech* reported that Cape Town is the 15th most violent city in the world (BusinessTech, 2018). In terms of absolute numbers of homicides per year, as opposed to the murder rate per 100,000 residents, Cape Town currently stands third in the list of the 50 most violent cities globally, with just two cities reporting a higher absolute number of homicides in the year 2017–2018 (Caracas in Venezuela, and Fortaleza in Brazil).

And then there is the other face of Cape Town, a city of opulent living conditions and extraordinary natural beauty, keyed-in to global tourism circuits and real estate markets (Shepherd, 2019, 2020). The *Knight Frank Prime Global Cities Index* "enables investors and developers to monitor and compare the performance of prime residential prices across key global cities," measuring the top 5% of the housing market. According to the *Knight Frank Index*, for the second quarter of 2017, Cape Town was the ninth most profitable city in which to invest in real estate, ahead of Melbourne, Paris, and Hong Kong and behind Berlin (Knight Frank, 2017). In 2014, *The New York Times* declared Cape Town the best place in the world to visit (Khan, 2014). In 2016, *The Telegraph* published "22 reasons why Cape Town is the world's best city," based on a poll of *Telegraph Travel* readers (*The Telegraph*, 2016). In fact, for the 5 years leading up to 2017, *The Telegraph* readers had consistently voted Cape Town as Britain's top-travel destination.

Such statistics paint a picture of a city not so much divided, as schizophrenically at odds with itself. The subjective experience of dwelling in Cape Town is that of being in a city that remains overwhelmingly racially divided, where extraordinary wealth exists side by side with abject poverty and scenes of bare life. The spatial layout of the city remains the urban plan of apartheid residential segregation, with an overlay of loosely regulated development and runaway property speculation post 1994. I can think of no other city with such starkly contrasted scenarios, vistas, and living conditions: the stately homes of Constantia and Bishopscourt and the seaside villas of Clifton and Camps Bay contrasted with the windswept shacklands of Khayelitsha and the dystopian ganglands of the cynically named "Lavender Hill" and "Ocean View" (Shepherd, 2015, 2019, 2020). Certainly, Cape Town's spectacular natural worlds, its unparalleled beaches, and the stately magnificence of Table Mountain, serve to compound this sense of disjuncture, when held up against the social misery that is the ineluctable other face of the city. In Cape Town, perhaps more visibly and viscerally than in other parts of South Africa, race and class coincide, so that constant, daily reminders of White wealth and Black poverty underscore this sense of urban disjuncture (Shepherd, 2019).

In Cape Town, contemporary social injustices are often rooted in deep historical injustices. From the moment of the rounding of the Cape in the late fifteenth century and the establishment of a settlement by the Dutch East Indian Company in the mid-seventeenth century, the litany of Cape history has included the genociding of the Cape San (the indigenous people of the Cape), the establishment of a brutal slave economy under the Dutch, both Dutch and British colonial orders, and—in the mid-twentieth century—the establishment of institutionalized apartheid. In the 1960s and 1970s, urban forced removals displaced in excess of 100,000 Black and Colored residents of Cape Town, ripping apart functioning working-class communities like District Six, and turning the city into a patchwork of racially segregated residential areas (Shepherd, 2015, 2019, 2020).

My argument here is not about Cape Town's exceptionalism, but rather the opposite—the idea that in Cape Town, a set of dynamics, forces, and social and economic trends that are present in many cities in the world are manifested with an unusual directness and intensity. Living in Cape Town, I often had the sense of living in the midst of a vast social experiment, one whose outcome is uncertain. This makes for a city characterized by simmering social, political, and economic tensions and a deep sense of historical grievance. Cape Town would seem to be a textbook case of what Christian Parenti (2012) calls the "catastrophic convergence" that comes about when the stresses of Anthropogenic climate change are added to existing social, political, and economic tensions. No wonder so many commentators were predicting anarchy come Day Zero.

Act 2: Water as Social Leveler

In fact, from the beginning, there was another, different scenario present in the reports on Cape Town's water crisis. This second scenario was present not so much in the words of the reports, as in the images that accompanied these words. Many of these images were of people standing in line, patiently waiting to fill plastic containers with water from the natural springs that occur in many sites in the city. The photographs accompanying the news reports were mainly taken at three sites: the South African Breweries spring off Main Road in Newlands, the spring on the side of Main Road in St James, and the spring at the end of "Spring Street" off Kildare Road. The image of Cape Town residents queueing at the springs became a visual trope for the crisis as a whole. Part of the fascination of these images is the inter-race, inter-class nature of the queueing multitudes: White, middle-class matrons from Constantia; Black and Colored workers from a nearby construction site; a Black domestic worker on her lunchbreak; businessmen in suits and ties; a township entrepreneur filling a bakkie with water containers to sell (Figures 1–5). As images, they reference and recall another New South African visual trope, the image of patient queues of people waiting to vote in the country's first democratic elections in 1994. For South Africans, such images resonate strongly. As with other highly segregated societies, there tend to be very few occasions, where people meet casually in the public sphere across race and class lines. These images suggest a different meaning of water and another possible scenario, not water as scarce commodity that precipitates a Mad Max–style resource war, but water as social leveller (Shepherd, 2019, 2020).

Figure 1. Spring Street, March 2018. Source: Dirk-Jan Visser.

Figure 2. Spring Street, March 2018. Source: Dirk-Jan Visser.

Figure 3. Spring Street, March 2018. Source: Dirk-Jan Visser.

Figure 4. Spring Street, March 2018. Source: Dirk-Jan Visser.

Figure 5. Spring Street, March 2018. Source: Dirk-Jan Visser.

For many residents of Caper Town's townships and informal settlements, the experience of queueing for water is nothing new. On January 29, 2018, the National Water and Sanitation Department announced that more than 5 million South Africans do not have reliable access to drinking water (out

of a total population of around 56 million people), according to a report published by *EyeWitness News* (Smith, 2018). The same report notes that an estimated 14.1 million people do not have access to safe sanitation. According to Statistics South Africa's 2016 General Household Survey, fewer than half of South African households (46.4%) have water piped in their homes (STATS SA, 2017). Over the decades, Cape Town's city managers and wealthier residents have shown little political will to address the plight of the city's poorest and most vulnerable residents. Perhaps the water crisis would achieve what South Africa's Mandela-inspired "rainbow nation" rhetoric has so signally failed to achieve in the quarter century, following the end of statutory apartheid: bonds of empathy and solidarity that cross race and class lines and that draw South Africans together to find a common future. Perhaps this is what it takes: an embodied sense of being together in a shared crisis, having to rely on the person behind you in the queue to help you with your unwieldy container of water, reaching out to help the person in front of you Such questions speak to a potentially new understanding of urban values and the business of dwelling in the city.

The idea of water as social leveler raises intriguing possibilities that strike at the heart of some core South African dilemmas. In an interesting twist, city managers announced that come Day Zero, piped water to communal taps in the city's townships and informal settlements would continue to flow, even as water supplies to the suburbs would be turned off (Robins, 2019). Would this send Cape Town's wealthier residents into the city's informal settlements, places they would normally shun? Would access to water invert accustomed relationships between the city's "haves" and "have-nots"? Informal accounts reported widespread water hoarding in early 2018, especially among the city's wealthier households. Sales of bottled water surged, and some retailers introduced 20-liter containers of bottled water, something not before found in stores. Interesting existential questions arise off the back of such scenarios. In times of crisis, such as Cape Town's water crisis in early 2018, should you put your faith in high walls, electrified fences, and private stockpiles of water, such as many of Cape Town's wealthier residents were doing? Could you rely on your relative wealth to see you through the crisis, as it had through the social and political upheavals of the past decades? Or would you be better off pursuing a different strategy, putting your faith in a developed social network, offering favors and expecting favors in return, relying on friends and neighbors to tell you about where the queues are shortest, or which shops still stock water? There is something foundational about such questions, which speak to the very basis of our understanding of society, and they are sure to become more pointed and more relevant as we face the rocky road ahead (Shepherd, 2019, 2020).

Act 3: Day Zero Deferred

Up to this point, the story of Cape Town's water crisis follows a recognizable plot: a city held hostage by a critical shortage of potable water, predictions of anarchy, and the scramble by citizens to make do. Then, suddenly, the message changed. On March 7, Mmusi Maimane, national leader of the Democratic Alliance, the governing party in the Western Cape and official opposition to the African National Congress, called a press briefing at the DA's Cape Town office. Calling the city's residents "Day Zero heroes" and surrounded by six flat screens reading "Act Now. We Must #DefeatDayZero," Maimane said that he had "some encouraging news for the drought-stricken city." He announced that "Day Zero will not occur in 2018" (Brandt, 2018; Dougan, 2018; Pather, 2018). Underlining the surprising nature of this announcement, "the party admitted that it had not yet informed the national water department about its prediction that Day Zero will not occur in 2018" (Pather, 2018). At this point, we need to pause in the narrative to review some statistics. In early January, when Mayor de Lille made her dramatic Day Zero announcement, dam levels stood at 28.7% of capacity. On March 6, the day before Maimane's announcement, dam levels had dropped to 23.6%. There had been no rain in the intervening months. In fact, following Maimane's announcement, it would be nearly 2 months before there was any appreciable rainfall in Cape Town (in late April), and it would be fully 3 months before the long-anticipated winter rains finally arrived. In the meantime, dam levels would continue to fall (Shepherd, 2019, 2020).

Thus it is that we need to detour away from a story, which, up to this point, has been told via the technical detail of rainfall statistics and dam-level reports, to consider the role of other factors in the response to Cape Town's Day Zero. Clues appear in the language used in this and other reports originating from the DA around this time. In his briefing of March 7, Maimane is reported as saying that he was not satisfied with the way the city has responded to the crisis: "Many residents blamed the DA, and as Cape Town is a DA government, it was important that I intervene to ensure that residents received the level of service and honest government that they expect from the DA" (Brandt, 2018). Writing on March 12, in a column published on *News24*, an online news site, Helen Zille said:

> The idea of 'Day Zero' hovering on the horizon has had a major effect on the big pillar of our economy, tourism. Visitors stay away from a city at risk of running out of water. Many also cancel their bookings. And this has a knock-on effect through the entire pipeline of tourism offerings. We simply cannot afford to lose jobs.. . . (Zille, 2018b)

In a column written on March 19, journalist Melanie Gosling said:

> The decision to scrap Day Zero has left many residents confused. One day it was hovering on the horizon, the next it was gone. Yet the dam levels are still dropping, there has been almost no rain. . . Trawling through statements, opinions and conversations with people from different sectors, it appears that the decision was political, designed to limit the negative impact on tourism and investment in the city. (Gosling, 2018)

Maimane's political gamble paid off when winter rains topped up dam levels and forestalled the collapse of the city's water infrastructure. By late June, dam levels had risen to 42.7%. However, the crucial factor in the events around Day Zero and its deferment lay elsewhere, in a widespread change in behavior. In a widely quoted set of figures, average daily water consumption in the city dropped from around 1.2 billion liters per day in February 2015 to between 510 and 520 million liters per day (MLD) in early 2018 around the time of Maimane's announcement, a drop of almost 60% (Robins, 2019). Robins notes that this fall in consumption is especially significant when we consider that 70% of water usage in the city is residential. In other words, the savings in water usage were achieved at the level of the individual household. By early October, dam levels stood at 76.2%, and average daily water usage in the city was around 546 MLD. Day Zero had been averted, at least for the time being.

Act 4: The Politics and Poetics of Water in the Anthropocene

Water-focused research is a burgeoning area of study. Some of the most engaging work in this expanding field understands potable water not simply as an inert resource, but rather as a complex object constructed at the point of intersection between natural systems; cultural imaginaries; and social, political, and economic forces and considerations. Jamie Linton writes of the development of "modern water" as a way of knowing water based on its "abstract, metric identity" (Linton, 2010, p. 13). He writes:

> One virtue of modern water is that it is not complicated by ecological, cultural, or social factors. This has made it relatively easy to manage. Another virtue of modern water is its universality—all waters, in whatever circumstances they may occur, are reducible to this abstraction. (Linton, 2010, p. 8)

Graeme Wynn writes: "Developing a quantitative view of water was part of the process that enabled science, in the words of German philosopher Martin Heidegger, 'to pursue and entrap nature as a calculable coherence'" (Wynn in Linton, 2010, p. xiii). Nikhil Anand's study of water supply in Mumbai considers the many social, political, and infrastructural factors needed to keep water flowing in the city. He develops a notion of "hydraulic citizenship," which he defines as "a form of belonging to the city enabled by social and material claims made to the city's water infrastructure" (Anand, 2011, p. 545). Kirsten Hastrup writes about the agentive power of water to impact on social worlds, constructing what she calls "waterworlds" (Hastrup & Hastrup, 2016). Astrida Neimanis develops a posthuman feminist phenomenology of water, as a transcorporeal agent in colonial and decolonial worlds. She writes:

> Colonialism is carried by currents in a weather-and-water world of planetary circulation, where we cannot calculate a politics of location according to stable cartographies or geometries. . . These waters gather and distribute the liquid runoff of a global political economy and techno-industrial capitalism that produces vastly divergent body burdens, but which nevertheless gathers us all. (Neimanis, 2017, pp. 36, 40)

These and other formulations invite us to think in potentially new ways about urban meanings and values, via the kinds of convergences and flows that exist between water as complex object, and the differently situated subjects of colonial modernity (Shepherd, 2019, 2020). I imagine water seeping into the cracks and cleavages opened by histories of colonialism and apartheid. I imagine water running along the furrows that exist between notions of race, class, and gender, both magnifying differences and blurring boundaries. I like the radically implicated sense in which we are ourselves watery bodies, in communication with other watery bodies and natural systems via a hydrological cycle that is at once naturally, culturally, and historically constructed. Water flows, seeps, and dissolves. It wets by contact, and it evaporates in the sun. As a sociological object, it invites a potentially new analytical vocabulary, not so much a terrestrial vocabulary of entanglement, as something both more gentle and more ineluctable and relentless. Floods, surges, and tsunamis are also part of the vocabulary of water.

Act 5: Field Notes on a Future History of Urban Dwelling

One of my starting points in this brief account is an interest in Anthropocene futures, and an idea, shared by many commentators, that events in Cape Town open a window onto the future to the extent that they begin to suggest what happens when the stresses of Anthropogenic environmental change are mapped onto complex social and political situations (e.g., see Newkirk, 2018). Do new forms of empathy and solidarity emerge out of moments of crisis like Cape Town's brush with Day Zero? Or can we expect the opposite, the breakdown of social systems? And what tips the balance between the two? What follows are a set of field notes based on the events around Cape Town's Day Zero and the new hydrosocial realities that they reveal.

Objective and Subjective Relationships to Water

Our relationship to water needs to be understood in both its objective and subjective aspects. There is a substantial literature focused on questions of water policy, management and infrastructure, and on the macro-politics of water in Southern Africa (for recent examples, see Fallon, 2018; Harris et al., 2018). The events in Cape Town reveal a second, more intimate, embodied, and subjective aspect of our relationship to water. They also speak of the micro-politics of water in everyday life. A host of questions come to the fore. What are the social meanings of water and how do these change in times of shortage? What new forms of value emerge? What imaginaries of water come to the fore? Making do on 50 liters of water a day requires careful management when this needs to cover all of one's needs: drinking, cooking, cleaning, and flushing. Common middle-class household practice during Cape Town's water crisis involved taking a quick shower, standing in a plastic tub to catch the runoff, then using this water to wash clothes, or flush the loo (usually limited to a single flush per day). An NBC News report that appeared at the height of the Day Zero crisis quotes 26-year-old Sitara Stodel: "I'm constantly thinking about running out of water and worrying about 'Day Zero.' I'm even having nightmares about wasting water. The other day I had a dream that I took a long shower by mistake" (Monteiro, 2018).

Anthropocene Vernaculars

The debate around the Anthropocene has tended to be conducted as a matter of high theory by researchers based, for the most part, in the Global North. In the events around Cape Town's Day Zero, it was fascinating to see how core Anthropocene concepts and concerns were translated into everyday terms, and became the stuff and substance of casual encounters and dinner-table conversations (Shepherd, 2019, 2020). Anthropologist Steven Robins calls this "water-talk" and notes that it was an

integral part of the events around Day Zero (Robins, 2019). Such water-talk often involved surprisingly detailed technical knowledge of water policy and management. People followed information on dam levels and daily water consumption closely and could quote statistics back at you. For its part, the city of Cape Town published a weekly, online "Water Dashboard," which broke down these statistics via a series of graphs. In January 2018, the city published an online, interactive "City Water Map," which showed average water consumption at a household level via a series of colored dots. This informal means of surveillance meant that householders could monitor the behavior of their neighbors and single out the water wasters from the "Day Zero heroes" (Shepherd, 2019, 2020).

The Entanglement of "Nature" and "Culture"

A core argument of the debate around the Anthropocene in the work of Latour, Chakrabarty, and others, concerns the entanglement of "nature" and "culture." Even at this early stage of analysis, I think it is clear that both the crisis and the postcrisis moments in Cape Town's Day Zero were produced at a complex point of intersection between climatic, social, political, and economic factors. Rather than being a climatic event that elicited a technical response—as we tend to imagine such shocks and crises to play out—Cape Town's Anthropocene moment was, and continues to be, a more layered event. I would argue that future Anthropocene crises are likely to be socially, economically, politically, and culturally entangled and mediated in similar ways (Shepherd, 2019, 2020). In the Anthropocene, perhaps more than ever before, empirically based scientific knowledge will be entangled with forms of discourse and systems of meaning and value as natural-world facts and events strike deep into the domain of "culture." On the one hand, this points to potentially exciting new knowledge conjunctions and collaborations. On the other hand, it points to the outmoded nature of current disciplinary configurations and the urgent need to "catch up."

The Unthinkability of Climate Change

Slavoj Zizek has an interesting line on Anthropogenic climate change. He says (in paraphrase): "We know it, but we don't believe it" (Zizek, 2011). One of the most important and perceptive interventions on the unthinkability of climate change is Ghosh's (2016) *The Great Derangement*, in which he tracks the rise of the modern novel, with its depiction of stable, bourgeois worlds and the "calm passion" of daily life. This prompts Ghosh to describe the crisis of the Anthropocene as being, in part, a cultural crisis, or a crisis of forms: nothing in our cultural apparatus equips us to think about abrupt discontinuities, ruptures, and the derangement of nature. Such events belong in the realm of discredited forms: science fiction or gothic horror. Confronted with a barrage of statistics and reports on Anthropogenic environmental change, it has become common to encounter the sentiment: but where do I begin? How do I make a difference when the scale of the challenges is so vast? One of the interesting aspects of Cape Town's Day Zero is that it translated such large-scale and intractable challenges down to the level of the individual household (Shepherd, 2019, 2020). Not only was Anthropogenic environmental change immediately perceptible, but doing something about it was as immediate as the decision not to flush, to re-wear a shirt, or to let your hair go another day between washes.

Survivalist States

What does it mean to live in a survivalist state? While, for many people, daily life is a matter of survival, for most middle-class households, this is a new and uncomfortable state of being. Extrapolating from Ghosh (2016), we might say that to a very great extent, middle-class life has been constituted around insuring against risk and managing future outcomes. Such horizons and expectations begin to break down in the face of the shocks and crises of the Anthropocene. In Cape Town, it was interesting to see how, at an early stage, the realization set in that the state was unlikely to intervene in a decisive way to rescue the situation, and that the responsibility devolved to individual households. Social media sources were full of suggestions for everyday technologies and "hacks," to recycle gray water, or to transport heavy 25-liter containers of water (Robins, 2019; Shepherd, 2018). Innovation and improvisation were the order of the day, as was the idea of living with uncertainty.

Survivalism—promoted by real or imagined threats—would seem to be an ambiguous and double-edged state of being, and yet it may be useful and even inescapable as we journey deeper into the Anthropocene.

Changing Behaviors

One of the most important "takeaways" from the events around Cape Town's Day Zero was the widespread change in behavior evidenced in people's reduced consumption of water. Described as "unprecedented," the collective drop in consumption was remarkable. By comparison, at the height of its drought in 2015, California residents achieved a 27% reduction in water consumption, and in response to their "Millennium Drought," Melbourne residents took 12 years to reach a similar percentage reduction to that achieved by Cape Town residents in 2018 (Robins, 2019). It was this, rather than any action on the part of the DA or the City of Cape Town, that averted the collapse of the city's water infrastructure, Maimane's statements notwithstanding. In part, the reduced consumption is likely to have been the result of increased tariffs and surveillance. However, the decisive factor appears to have been the manner in which householders internalized the risk and acted decisively to reduce consumption. This social mobilization is all the more remarkable for having taken place across lines of race and class in an historically divided city (Shepherd, 2019, 2020). There is some attention to changing behaviors in the debate around the Anthropocene (e.g., see Jones et al., 2013); however, I would anticipate that this important topic will become more central in years to come.

Defense of the Commons

Michael Hardt and Antonio Negri write:

> By the 'common' we mean, first of all, the common wealth of the material world—the air, the water, the fruits of the soil, and all nature's bounty—which in classical European political texts is often claimed to be the inheritance of humanity as a whole, to be shared together. . . Neoliberal government policies throughout the world have sought in decent decades to privatize the common.. . . (Hardt & Negri, 2009, p. vii)

In March 2018, Cape Town was alive with rumors: The City of Cape Town was using the water crisis as an excuse to raise tariffs and to force the privatization of water, which, in South Africa, remains largely in municipal hands. There were signs that this was, indeed, the case (Robins, 2019). Certainly, the crisis was being seen by some as a moment of opportunity. Retailers were quick to exploit the market demand for bottled water and developed new forms of packaging, which allowed consumers to buy water in large volumes. One of the most remarkable Day Zero stories concerns Riyaz Rawoot, the "Water Master," who informally adopted and managed the freshwater spring in Spring Street. When we visited Spring Street in March 2018, a whole careful ecology was in operation, via an intricate system of PVC pipes, special queues for the elderly, and trolley operators who would transport your water for a small fee. As told by Steven Robins, a few weeks after our visit, the City of Cape Town closed down Riyaz's operation and poured concrete over the source of the spring (Robins, 2018).

The Role of Social Movements

With much at stake, and with a strong tradition of social activism in South Africa, it is perhaps inevitable that water-focused social movements would organize around Day Zero. Groups like the Water Crisis Coalition mobilized to pressure the city to lower tariffs, to oppose the use of controversial and inefficient water management devices (WMDs), and to demand transparent and accountable governance. In the context of a low-trust environment with a comparatively weak state, social movements play an important role in producing a notion of active citizenship. This form of active citizenship was arguably a key factor in the events around Cape Town's Day Zero, as citizens absorbed the message and took matters into their own hands (Shepherd, 2019, 2020). Like the notion of survivalist states, a notion of active citizenship becomes useful in thinking about how populations adapt to the stresses of Anthropogenic environmental change. It becomes interesting to speculate that

these forms of social resilience may be more accessible to populations in the Global South, accustomed by long experience to shocks, crises, and taking matters into their own hands, than to their counterparts in the more settled environments of the Global North.

Water as Heritage

How will we tell the story of water in future years? Perhaps we will say that for a brief moment in human history, for a privileged few, it was a taken-for-granted fact of everyday life that you turned on a tap and the water would flow? Or we could describe how piped, potable water became one of the indexes of modernization, just as in previous eras the control of water had been the foundation of civilizations. And then we would need to tell the rest of the story, how this brief flourishing was truncated by the harsh new regimes of the Anthropocene. According to the United Nations World Water Development Report of 2018, water shortages could affect 5 billion people by 2050, with likely "conflict and civilizational threats" (Watts, 2018). It seems clear that we have to value water differently. Rather than thinking about water as a right, or as a resource, or as a commodity, we should perhaps be thinking about clean drinking water as a precious heritage, to be held in stewardship and handed down to our children, and to their children. The story of the earth's water is remarkable and uncanny. Delivered to a dry earth by asteroids, individual water molecules have been cycled through the earth's natural systems and through every form of life, only now to be filtered through our carbon civilization and through our own bodies. If there was ever a case for the entanglement of "natural heritage" and "cultural heritage," then water most eloquently presents it (Shepherd, 2019, 2020).

Anthropocene Futures

Taking a leaf from Davis' (1990) brilliant excavation of the future in dystopian 1980s Los Angeles, I think it is possible to view events in Cape Town as opening a window onto the future of the Anthropocene (Shepherd, 2019, 2020). The question might be framed as follows: what happens when the added stresses of Anthropogenic environmental change are mapped onto already contested social, political, and economic situations? In the case of Cape Town, this remains an open question. Day Zero has been deferred for now, but the specter of drought haunts the city. By some reports, Southern Africa is a climate change "hot spot," with expected average temperature rises roughly twice the global average (Englebrecht, 2019). It is common in the literature to see Anthropogenic environmental stress referred to as a "magnifier," exacerbating already-existing tensions, but the events in Cape Town suggest other possible outcomes: the emergence of new forms of solidarity, improvised solutions, and modes of active citizenship.

Empathy

To a significant extent, Cape Town's Day Zero was a middle-class crisis. At the height of the Day Zero events, township dwellers were heard to say that they would count themselves fortunate to have access to 50 liters of clean water each day. As I write, the idea of 50 liters of water per day remains an aspiration for many of Cape Town's poorest residents, as does access to a flushing loo. However, rather than detracting from the seriousness of events in Cape Town, if anything, this underlines them. Globally, the future shocks of the Anthropocene will strike nations, classes, and bodies differently, depending on their levels of wealth and forms of governance, as well as on accidents of geography. Very little of this will be fair, as the already underdeveloped territories of the Global South and vulnerable populations everywhere find themselves most at risk (Parenti, 2012). Entanglement is not the same as empathy and connectedness. We are all in this together, but some are more *in* it than others, in the sense that some will pay a disproportionately higher cost as the world warms. A central question is whether we are able to find—or evolve—the forms of empathy that allow us to imagine a common human future. The alternative, as Christian Parenti points out, is the "politics of the armed lifeboat" in a dog-eat-dog world in which those with means scramble for survival at any cost.

Water flows, seeps, and pools. It travels upwards against the force of gravity. Full of surprises, it is, at the same time, utterly commonplace. It seems clear that we are entering an ambiguous new phase in human history, in which many of the old certainties fall by the wayside. We need new metaphors, new metrics, new disciplines, new forms of analysis, a whole new language, to describe these new realities. For scholars, there are many ways of reaching for this new language. For me, for now, I am going to follow the water.

Postscript: On Precariousness

Academic publication is a lengthy process. I wrote this article in a different world, the pre-Coronavirus Disease 2019 (COVID-19) world. Now, as I sit with the reviewers' reports, we are in the midst of a global health crisis, with unprecedented social, economic, political, and cultural consequences, at least in our lifetime. Suddenly, we have a new vocabulary: "social distancing," "lockdown," and "flattening the curve." Like many people, I have been glued to news reports, trying to make sense of this strange new world. I began this article by reflecting on the precariousness of our social arrangements, and on the shutting down of timelines and expectations as cities like Cape Town experience their "Anthropocene moment." Central to this formulation is the idea of rupture, the "before" and "after" of a sudden, unanticipated set of events. I wrote: "Living in Cape Town, I often had the sense of living in the midst of a vast social experiment, one whose outcome is uncertain." I speculated that events around Cape Town's "Day Zero" drought pointed ahead to the possible fate of other cities and territories, as we journey deeper into the Anthropocene. When I wrote these words, I had no idea how soon this prediction would come to pass. From being a single city living "under the cloud of the Anthropocene," we all now live under the cloud of the global COVID-19 pandemic.

As we assimilate to this strange new world, many aspects of Cape Town's response—futuristic and outlandish as they seemed—have become part of our shared reality: fears of a descent into Mad Max–style anarchy; the emergence of new forms of solidarity; the startling powerlessness of some governments; the emergence of survivalist tactics and a states of mind; the proliferation of technologies of surveillance; the rapid assimilation of complex scientific facts and processes as part of everyday conversation in the form of "Anthropocene vernaculars;" and the radical entanglement of "natural" and "cultural" worlds as responses to the novel Coronavirus—a phenomenon born in the world of biology—have everywhere become socially, politically, and economically entangled. We are assailed by a profound sense of our own precariousness, and it seems likely that this will be the lasting legacy of this passage in time, regardless of whether or not a vaccine is developed. A certain triumphalist, modern narrative would appear to have run to an end, perhaps none too soon. Most poignantly, the pandemic has revealed how we both are, and are not, all in this together. Everyone is at risk, but some are more at risk than others, and in many locations, the effect of the virus has been to deepen and widen already-existing social and economic cleavages.

Water flows, seeps, and spreads. Viruses are transmitted and carried in droplets and on surfaces. Proximity becomes dangerous, and we veer away from other people as who can tell who is, and is not, contagious. Time accelerates; suddenly, the future is upon us, and what I intended as observations "toward a future of urban dwelling," predicated on the experience of a distant city in the Global South, have become part of our global present. After living in Cape Town for most of my adult life, 3 years ago, I brought my family to live in Denmark, half a world away. For me, the experience was one of grief, nostalgia, and letting go. These would seem to be appropriate emotions to carry with us, as we journey deeper into the ambiguous new epoch of the Anthropocene.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The author gratefully acknowledges financial support from the Aarhus University Research Foundation (AUFF), which assisted in the preparation of this article.

ORCID iD
Nick Shepherd https://orcid.org/0000-0003-3378-7076

References

Allie, M. (2018, January 24). Cape Town water crisis: "My wife doesn't shower anymore." *BBC News*. https://www.bbc.com/news/world-africa-42787773

Anand, N. (2011). Pressure: The poliTechnics of water supply in Mumbai. *Cultural Anthropology*, *26*(4), 542–564.

Baker, A. (2018, January 15). Cape Town is 90 days from running out of water. *Time Magazine*. http://time.com/5103259/cape-town-water-crisis/

Brandt, K. (2018). Maimane: Day zero may not happen in 2018. *EyeWitness News*. https://ewn.co.za/2018/03/07/maimane-day-zero-may-not-happen-in-2018

BusinessTech. (2018, March 7). Cape Town is one of the most violent cities in the world. https://businesstech.co.za/news/lifestyle/230123/cape-town-is-one-of-the-most-violent-cities-in-theworld/

CBS News. (2018, January 19). Cape Town, on verge of running out of water, braces for "Chaos." https://www.cbsnews.com/news/cape-town-drought-water-shortage-south-africa/

Chakrabarty, D. (2009). The climate of history. *Critical Inquiry*, *35*(2), 197–222.

Child, D. (2018, January 16). Cape Town confronts looming "Day zero" water crisis. *Al Jazeera - English*. https://www.aljazeera.com/news/2018/01/cape-town-confronts-looming-day-water-crisis-180114121145902.html

Chow, L. (2018, January 16). Will Cape Town become the first major city to run out of water? *EcoWatch*. https://www.ecowatch.com/cape-town-water-crisis-2525997846.html

City of Cape Town. (2012). *2011 census*. Strategic Development Information and GIS Department, City of Cape Town. http://resource.capetown.gov.za/documentcentre/Documents/Maps%20and%20statistics/2011_Census_Cape_Town_Profile.pdf

City of Cape Town. (2016). *State of Cape Town report—Overview with infographics*. Development Information and Geograhic Information Systems Department. http://maitcid.co.za/wp-content/uploads/2017/01/State-of-Cape-Town-Report-2016.pdf

Daily Mail. (2018, January 16). Cape Town is 90 DAYS away from running out of water: Seaside metropolis could become the first major city in the world to run dry, mayor warns. https://www.dailymail.co.uk/news/article-5275997/Cape-Town-90-DAYS-away-running-water.html

Davis, M. (1990). *Cities of Quartz. Excavating the future in Los Angeles*. Verso.

Dixon, R. (2018, January 19). In Cape Town, "Day zero" is coming very soon—The day the water runs out. *Los Angeles Times*. https://www.latimes.com/world/africa/la-fg-south-africa-water-crisis-20180119-story.html

Dougan, L. (2018, March 7). Cape Town: "Day zero" will not occur in 2018, announces Mmusi Maimane. *Daily Maverick*. https://www.dailymaverick.co.za/article/2018-03-07-cape-town-day-zero-will-notoccur-in-2018-announces-mmusi-maimane/

Engelbrecht, F. (2019). *Southern Africa heading for climate tipping points*. IPCC's Special Report on Global Warming of 1.5°C (SR1.5).
Ernsten, C. (2017a). The "Bigger picture:" How the 2010 FIFA World Cup and the 2014 World design capital events conditioned Cape Town's urban transformation. *Urban Forum*. https://doi.org/10.1007/s12132-017-9325-0

Ernsten, C. (2017b). A renaissance with revenants: Images gathered from the ruins of Cape Town's districts one and six. In L. McAtackney & K. Ryzewski (Eds.), *Contemporary archaeology and the city. Creativity, ruination, and political action* (pp. 211–228). Oxford University Press.

Ernsten, C. (2017c). The dead of Cape Town's district one. *International Journal of Heritage Studies*, *23*(6), 575–586.

Fallon, A. (2018). *A perfect storm: The hydropolitics of Cape Town's water crisis*. Global Water Forum. http://www.globalwaterforum.org/2018/04/17/the-hydropolitics-of-cape-towns-water-crisis-a-perfect-storm/

Ghosh, A. (2016). *The great derangement. Climate change and the unthinkable*. The University of Chicago Press.

Gosling, M. (2018, March 19). Analysis: Why day zero was scrapped. *News24*. https://www.news24.com/SouthAfrica/News/analysis-why-day-zero-was-scrapped-20180319

Hardt, M., & Negri, A. (2009). *Commonwealth*. Belknap Press/Harvard University Press.

Harris, L., Kleiber, D., Yaylaci, S., Rodina, L., & Goldin, J. (2018). Water materialities and participatory governance: Implications of water quality and access for participatory engagement in Accra Ghana and Cape Town, South Africa. *Society and Natural Resources*, *31*(1), 89–105.

Hastrup, K., & Hastrup, F. (Eds.). (2016). *Waterworlds: Anthropology in fluid environment*. Berghahn Books.

Jones, R., Pykett, J., & Whitehead, M. (2013). *Changing behaviours: On the rise of psychological state*. Edward Elgar.

Khan, S. (2014, January 12). 52 places to go in 2014. *New York Times*. https://www.nytimes.com/interactive/2014/01/10/travel/2014-places-to-go.html

Knight Frank. (2017). *Knight Frank prime global cities index, second quarter 2017*. https://content.knightfrank.com/research/323/documents/en/prime-global-cities-index-q2-2017-4862.pdf

Latour, B. (2014). Agency at the time of the anthropocene. *New Literary History*, *45*, 1–18.

Linton, J. (2010). *What is water? The history of a modern abstraction*. UBC Press.

Maxmen, A. (2018, January 24). As Cape Town water crisis deepens, scientists prepare for "Day zero." *Nature: International Journal of Science*. https://www.nature.com/articles/d41586-018-01134-x

Monteiro, C. (2018, January 29). Water crisis grips Cape Town after South African drought stretching years. *NBC News*. https://www.nbcnews.com/news/world/water-crisis-hits-cape-town-south-fricaday-zero-looms-n841881

Mulligan, G. (2018, January 12). Will Cape Town be the first city to run out of water? *BBC News*. https://www.bbc.com/news/business-42626790
Nace, T. (2018, January 18). Mad max scenario: Cape Town will run out of water in just 90 days. *Forbes*. https://www.forbes.com/sites/trevornace/2018/01/18/mad-max-scenario-cape-town-run-out-water-90-days/#4859f9675414

Neimanis, A. (2017). *Bodies of water. Posthuman feminist phenomeology*. Bloomsbury.

Newkirk, V. R. (2018, September 11). Cape Town is an omen. *The Atlantic*. https://www.theatlantic.com/science/archive/2018/09/cape-south-south-africa-water-crisis/569317/

Parenti, C. (2012). *Tropic of chaos. Climate change and the new geography of violence*. Bold Type Books.

Pather, R. (2018). Maimane: #DayZero will not occur in 2018. *Mail & Guardian*. https://mg.co.za/article/2018-03-07-maimane-dayzero-will-not-occur-in-2018

Robins, S. (1998). Spicing up the multicultural (Post-)apartheid city. *Kronos*, *25*(Pre-millennium issue), 280–293.

Robins, S. (2018, June 4). The Kildare Road spring: A place buried under concrete. *Daily Maverick*. https://www.dailymaverick.co.za/article/2018-06-04-the-kildare-road-spring-a-place-buriedunder-concrete/

Robins, S. (2019). "Day zero," Hydro-citizenship and the defense of the common in Cape Town: A case study of the politics of water and its infrastructures (2017–2018). *Journal of Southern African Studies*, *45*(1), 5–29.

Shepherd, N. (2015). Digging deep: A hauntology of Cape Town. In J. Cherry & F. Rojas (Eds.), *Archaeology for the people: Joukowsky institute perspectives* (pp. 96–107). Oxbow Books.

Shepherd, N. (2018). Cape Town water: Anthropocene futures. In N. Shepherd, C. Ernsten & D.-J. Visser (Eds.), *The walking seminar: Embodies research in emergent anthropocene landscapes* (pp. 40–50). Reinwardt Academy Press.

Shepherd, N. (2019). Making sense of "Day zero:" Slow catastrophes, anthropocene futures, and the story of Cape Town's water crisis. *Water*, *11*(9), 1744.

Shepherd, N. (2020). Slow catastrophes: Cape Town water and anthropogenic climate change. In F. Riede & P. Sheets (Eds.), *Going forward by looking back: Archaeological perspectives on socio-economic crisis, response and collapse*. Berghan Books.

Smith, G.-L. (2018). Over 5 million South Africans don't have access to reliable drinking water. *EyeWitness News*. https://ewn.co.za/2018/01/26/over-5-million-south-africans-don-t-have-accessto-reliable-drinking-water

STATS SA. (2017). *General household survey (GHS) 2016. Statistical release*. Statistics South Africa. http://www.statssa.gov.za/publications/P0318/P03182016.pdf

The Telegraph. (2016, July 16). 22 reasons why Cape Town is the world's best city. https://www.telegraph.co.uk/travel/destinations/africa/south-africa/galleries/reasons-why-cape-town-is-the-best-city-in-theworld/

TimesLive. (2018, January 16). April 21 is Cape Town's new "Day zero." https://www.timeslive.co.za/news/south-africa/2018-01-16-april-21-is-cape-towns-new-day-zero/

Watts, J. (2018, March 19). Water shortages could affect 5bn people by 2050, UN report warns. *The Guardian*. https://www.theguardian.com/environment/2018/mar/19/water-shortages-could-affect-5bn-peopleby-2050-un-report-warns

Zille, H. (2018a, January 22). From the inside: The countdown to day zero. *Daily Maverick*. https://www.dailymaverick.co.za/opinionista/2018-01-22-from-the-inside-the-countdown-to-day-zero/

Zille, H. (2018b, March 12). 4 things that helped us dramatically push back day zero. *News24*. https://www.news24.com/Columnists/GuestColumn/4-things-that-helped-us-dramatically-push-back-dayzero-20180312

Zizek, S. (2011). *Living in the end times*. Verso.

Author Biography

Nick Shepherd is an associate professor of Sustainable Heritage Management at Aarhus University, and Extraordinary Professor at the University of Pretoria. In 2017–2018, he was Artist-in-Residence at the Amsterdam University of the Arts. His current project on Heritage and the Anthropocene (HATA) is a joint project between Aarhus University and the University of Cape Town's Future Water Institute.