

– INTERVENTIONS

– ENDURING HARM: Unlikely Comparisons, Slow Violence and the Administration of Urban Injustice

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Abstract

In this comparative and collaborative collection of essays we work through contemporary and historical practices of governing urban waters in Philadelphia and Mumbai. Taken together, the essays in this collection argue that events of enduring harm visited upon racialized, marginalized citizens are produced through slow bureaucratic processes of aversion, ambiguation and ambivalence, perpetuated in and through regulatory regimes, water quality standards, legal discourses and everyday practices in the city. These practices entangle racialized and poorer populations in situations of durable and everyday harm and are central to the creation, maintenance and reproduction of vulnerable and disposable human and non-human life in the city.

A tale of two wetlands

On 23 September 2019, the Bombay High Court ruled that the state government of Maharashtra would have to relocate over 5,000 families living in the fenceline neighborhood of Mahul to an area that would be safe for them to live in, and that it would have to pay both the short-term and long-term costs associated with the move. Mahul is a neighborhood made up of wetlands on the edges of Mumbai. Initially turned into solid ground to host the operations of Bharat Petroleum, a large state oil-refining complex, in 2007 the chemical industrial site was zoned to create a large resettlement site for housing slum residents displaced by urban infrastructure projects in different parts of the city (Indorewala and Wagh, 2017). Soon after resettlement, the residents of the two housing colonies in Mahul found themselves subjected to unacceptable levels of air pollution from the chemical operations of the refinery and began complaining of acute respiratory diseases. While state agencies looked the other way, the High Court commissioned its own studies and ruled that ‘Mahul continues to be a dangerously polluted region. It is evident that residing in the Eversmile Colony has resulted in the [residents] suffering a variety of serious health issues, including acute respiratory diseases’, and that consequently they needed to be resettled (Saigal, 2019). The following

This project was sponsored by the Making a Difference in Diverse Communities Research Grant awarded by the Dean of the School of Arts and Sciences at the University of Pennsylvania. Nikhil Anand's research was supported by a National Science Foundation Senior Research Award ID 1852987, funded by the Cultural Anthropology Program and the Program in Science, Technology and Society. The authors would also like to thank Amita Bhidé, Dean of the School of Habitat Studies at the Tata Institute of Social Sciences, Mumbai for significant administrative support that made this project possible. We also wish to thank the *Rising Waters* student fellows Tathagat Bhatia, Samantha Friskey, Fiona Jensen-Hitch, Aditi Kelshekar, Rupakshi Mathur, Rose Nagele, Martin Premoli, Luna Sarti, Vidhy Shethna, Simran Sumbre, Anushri Tiwari and Salman Zaheer for their stimulating research, conversations and collaboration that nourished this work. We are grateful to Paul Farber and Meg Arenberg at the Penn Program in Environmental Humanities and to the School of Habitat Studies Secretariat at TISS for their administrative support in hosting events and workshops in Philadelphia and Mumbai, respectively. Finally, the authors would like to thank Liza Weinstein, Malini Ranganathan and the anonymous reviewers of IJURR for substantive and helpful feedback and suggestions throughout the review process.

year, amidst the COVID-19 pandemic, the city designated the vacant buildings of Mahul as a quarantine facility for suspected and confirmed COVID patients.

Halfway across the world, and also in late 2019, environmental justice activists working with fenceline communities near the Philadelphia Energy Solutions (PES) refinery were demanding the ‘right to breathe’. Although activists and residents had been complaining about the air quality around the refinery for decades, a dangerous and massive explosion at the refinery in June 2019 brought questions of infrastructural harm and environmental justice into sharp relief beyond the immediate neighborhood, making the refinery’s toxic harms a matter of concern to residents across the city and the region as a whole (Wiggin, 2022, this issue). Residents of the neighborhoods of Point Breeze and Girard Estates and environmental advocates and their allies demanded that the refinery—built on landfill in the historic wetlands and shuttered since the explosion—not be reopened. Pointing to the massive amounts of hydrogen fluoride, benzene and other toxins that the refinery both contained and emitted, activists mounted what was eventually a successful campaign to insist that the oldest continuously operating refinery in the United States be permanently closed, its operations finally recognized as too dangerous to tolerate—both now and in a future of rising waters heavy with toxic legacies.

Toxic urbanescapes at the margins of land and water present the settings for some of the most egregious and ongoing performances of slow violence and environmental injustice today. Over the last three centuries, these locations have been dried out and turned into urban grounds through colonial, colonialist and modernist practices of cartography, urban infrastructure and resettlement. In Philadelphia and Mumbai—the two cities considered in this intervention—as well as several others, engineers drained wetlands and built river embankments and sea walls to create immensely profitable urban property (Prakash, 2010; Bhattacharyya, 2018). In both cities, this land (once filled) has been zoned to accommodate chemical industries and housing (much of it for people on low incomes) in close proximity to one another (Taylor, 2014). While the temporary visibility afforded to the Mahul and PES refineries is the outcome of the respective legal and political crises these infrastructures produced in 2019, these spectacular events also reveal the ubiquity of marginalized residents emplaced and stuck amidst toxic urban infrastructures; infrastructures which are also stuck to the city, despite the harms they cause.

In both Philadelphia and Mumbai, the intransigence of being stuck in place is not just material and biological—a state of marginalized residents being consistently placed in harm’s way. The stuckness is also one of the imagination: of being unable or unwilling to reimagine and realize how civic institutions, including urban governments, might work to do otherwise. This intervention for IJURR therefore explores situated possibilities for restoration, for imagination, and for resistance and action. Our interdisciplinary analyses foreground urban waters as a medium for this intransigence. In the patterns we illuminate from Mumbai to Philadelphia—perhaps startling in their similarities—environmental violence is produced, reiterated and mediated by water as it flows (or doesn’t) out of taps and down drains, as it collects waste and takes it to the sea, or returns it on high tides and flood waters, inundating residents and the projects and programs of urban governance that continuously place them in harm’s way.

Working through river floods and refinery explosions, as well as the less spectacular, more ordinary events of toxic violence, we show how the administration and governance of contaminated water—both in Philadelphia and in Mumbai—are rife with practices of bureaucratic forgetting and managed ignorance throughout each city’s history. In this intervention we argue that these practices entangle racialized and poorer populations in situations of durable and everyday harm. They are central to the creation, maintenance and reproduction of vulnerable and disposable human and non-human life in the city. Taken together, the essays in this collection intervene in the ongoing debates in urban studies to argue that events of enduring harm against racialized, marginalized

citizens are produced through slow bureaucratic processes of aversion, ambiguation and ambivalence, perpetuated in and through regulatory regimes, water quality standards, legal discourses and everyday practices in the city.

The silences of slow violence

The accumulation of these often invisible and inaudible, bureaucratically sanctioned procedures of administering harm has been increasingly recognized and named as violence, notably with the felicitous term ‘slow violence’, coined by literary scholar Rob Nixon (2013) and key for the work gathered here. In making this argument about the repetitive and durational production of urban vulnerability, our analyses draw on a variety of fields, bringing studies that focus on the political ecology of infrastructure (Star and Ruhleder, 1996; Graham and McFarlane, 2014; Anand *et al.*, 2018) into conversation with environmental justice (Taylor, 2014; Pulido and De Lara, 2018) and environmental humanities (Tsing *et al.*, 2019; Wiggin *et al.*, 2020), and drawing on anthropology and literary and cultural studies to illuminate the long historical wake of racialized capitalism and systemic racism (Sharpe, 2016; Stoler, 2016) and its perpetuation by urban development projects. When infrastructural harm appears, either as spectacularly as in the event of a refinery explosion or more tenuously through a court judgment, we suggest that its durability is sustained by the reworkings of property, safety and the law that these disruptions produce and entail.

Drawing out the various connections between slow violence and catastrophe unwinds the linear history of progress on which the modern city is founded, a point to which this introduction returns. Alternately attending to specific toxic wetscapes in Philadelphia and Mumbai, the essays explore the connections between slow violence and spectacular disaster—each leading to the other, each rendering the other visible—and they elucidate the governance regimes that these regimes initiate. The temporal dispersion of slow violence often impedes our ability to mobilize and act until there is a spectacular disaster—an event that is explosive, erupting into sensational visibility. For example, the oil refinery explosion in Philadelphia in 2019 (Wiggin, 2022, this issue) or Mumbai’s deluge of 2005 (Kamath and Tiwari, 2022, this issue) serve both as moments of crisis and of possibility for changing the public and official discourse and imagination of threat: how threat is distributed and how it is governed.

The essays collected here reveal how urban governance processes are not only biopolitical, but also central to the production and maintenance of vulnerability. The languages of bureaucratic neutrality, as well as the contestation of environmental standards in Philadelphia (Bhatia, 2022, this issue) and Mumbai (Anand, 2022, this issue) actively *produce* obfuscation and ignorance about how toxicity and harm are unequally distributed in cities. We focus on how standardized administrative procedures for assessing pollution, water quality, access to water, and even conducting public consultations act as mechanisms for obfuscation and the administration of harm in the city (Star and Ruhleder, 1996). We also show how these processes are actively contested and redrawn by different vulnerable groups mobilizing to demand the right to water and the right to create a different, less harmful state (Deekshit and Sumbre, 2022, this issue). In positioning these durational processes alongside spectacular events, considering each as an example of environmental violence, we wish to highlight both the bodily and experiential consequences of slow violence and attribute responsibility for these harmful events.

In both Philadelphia and Mumbai, the uneven production and assessment of environmental standards consolidate existing divisions by creating and establishing zones of exclusion and communities of abandonment. State responses in regard to negotiating and interpreting environmental quality or water access reinforce urban inequality (Anand, this issue; Bhatia, this issue). Consequently, in both cities, activists are demanding new standards for the provision of urban services and environmental

justice: namely, the inclusion of the urban poor in programs of safe, clean access to water and mitigation of the harms produced by contaminated water, which is now returning with floods and higher sea levels with increasing frequency and intensity to the historic wetlands. The struggles in Mumbai over the right to water display a protracted engagement with the state to challenge norms of water access and to demand inclusion (Deekshit and Sumbre, this issue). Similarly, residents and city councilors in Philadelphia who mobilized for the right to water and a clean environment are demanding not merely a different set of standards, but environmental justice as well. The essays in this intervention thus emphasize how standards are not simply significant sites for the distribution of harm. Standards represent the very grounds on which new claims for ecological and distributive justice are made and mediated in the city.

Comparison as method

To make these arguments, we compare bureaucratic administration and slow violence in Philadelphia and Mumbai. In recent years, a range of articles submitted to this journal and others in urban studies and geography have drawn attention to the generativity of comparison (McFarlane, 2010; Roy, 2011; Robinson, 2011; 2015; Ranganathan and Balzas, 2015; Hart, 2018). Jenny Robinson, for instance, argues that comparison of urban processes might be a generative exercise, not only to reveal the interconnections between repeating urban phenomena, but also to generate and animate new concepts (2011: 6). In their inspiring treatment of ‘water marginalization on the urban fringe’, Ranganathan and Balzas urge for comparison across cities of the North and South so as to provincialize normative, Northern accounts of reading urban processes. Such a process, they suggest, ‘requires posing Third World questions of the First World, and not simply vice versa’ (2015: 404).

In this intervention we think comparatively and collaboratively across these racialized technical, social and environmental wetscapes with the aim of going further than simply generating new concepts to theorize the making of environmental injustice and urban space. Drawing on Hart (2018), we suggest that relational comparison across Mumbai and Philadelphia may demonstrate how the practices of urban development reveal spatio-historical specificities as well as sharing some family resemblances across diverse social and political histories in the global North and the global South. In conducting a relational comparison of the way environmental injustice is constituted across both North and South, our focus is on ‘*how* key processes are constituted in relation to one another through power-laden practices in the multiple, inter-connected areas of everyday life’ (*ibid.*: 375; original emphasis), while also attending to the striking convergences (as well as divergences) we find with the other city/context. The essays in this intervention show the multiple arenas of practice (in terms of data, regulation, law and measurement) in which inequality and harm are produced dialectically across different sites, in both Philadelphia and Mumbai.

We identify two axes of learning that are helpful in unlocking the dialectical politics of urban development projects: state bureaucratic practices of ambiguation and ‘ambivalencing’ (see Deekshit and Sumbre, this issue), and forgetting and unseeing as *active* processes. We use the cases in this intervention as heuristics to uncover these practices and processes, their connections and their silences. Our essays highlight how government agencies deploy stratagems of ambiguation and/or ambivalencing as regulatory modes of control that are indicative of power; this falls unevenly on particular groups and places in repeated patterns that constitute the slow violence made visible through a longer historical frame.

Our contributions also highlight active processes of forgetting and unseeing involving the creative use of data, standards and the language of protection in order to socially produce ignorance, obfuscation and differentiation—whether through the transformation of a river and wetlands into ‘data deserts’ (Wiggin, this issue) or through

the presence and proliferation of protective standards and institutions (Bhatia, this issue; Deekshit and Sumbre, this issue; Kamath and Tiwari, this issue). They therefore show how the creation and maintenance of sacrifice zones or neglected communities is a consequence of the continual repetition of such processes. In drawing attention to how data, standards and discourse are operationalized and mobilized—and are also tied to the proliferation of regulatory modes of control—this collection reveals how the political logics of ambiguity/ambivalencing and forgetting/unseeing are enmeshed and vitally necessary for sustaining the manipulation of water-land geographies. This scholarship we find equally relevant to both North and South, highlighting continuities and disjunctures across the two cities/contexts.

Clarifying axes of connection and divergence across contexts and cities helps generate new insights into the possibility for social change (Hart, 2018), a crucial motivation of the essays presented here. This intervention is particularly keen to discuss work that sits at the intersection of critique and action, in the continuum between the analytical and reparative. These contributions adopt varied methodologies to achieve this, largely shaped by the authors' disciplinary and practical engagements in place. Several articles in the collection think with maps as specific tools enunciating how landscapes of harm are carved out and produced over time. Others more or less implicitly consider how scholars working in and with communities can repair and reimagine sacrifice zones. Some of the essays interrogate the legal and scientific standards by which we measure water quality and access, highlighting the ambiguities within and the absence of lived, experiential knowledge in framing a broader understanding of public health. Different backgrounds in disciplinary training, writing styles and research-praxis locations convey 'the effect of multiple voices' (Tsing, 2009: 283) when reading through the entire collection. We see this as a strength of this IJURR intervention, where our 'individual styles amplify the collective endeavour' (*ibid.*), and as evidence that each contributor has shaped this collective endeavor in unique ways.

Collaborating across rising waters

Focused on the differentiated life that inhabits the toxic urban landscapes of Philadelphia and Mumbai, this intervention on slow violence and the administration of urban injustice emerges out of a three-year-long comparative and collaborative research project called *Rising Waters*, carried out between students and faculty at the University of Pennsylvania and the Tata Institute of Social Sciences (TISS). Sited amidst ecologically and socially fraught waters, we ask: in what ways do ongoing urban processes (replete with concessions to energy companies, toxic corridors and global capital) recapitulate and reorient long histories of vulnerability and inequality in the present moment? How are residents reconsidering their relationship with water in the city to articulate new ways of living more justly with relations of human and non-human difference in the city?

Working together between 2017 and 2020, we have sought to answer these questions through slow research, interdisciplinary inquiry and shared coursework in Philadelphia and Mumbai. In the first year of our work together, Nikhil Anand and Bethany Wiggin at the Penn Program in Environmental Humanities (PPEH) identified four undergraduate *Rising Waters* fellows at the University of Pennsylvania and taught two courses on urban waters and public-facing research in Spring 2018 and Fall 2018, the latter with two graduate *Rising Waters* fellows. At the same time, Pranjal Deekshit and Lalitha Kamath identified six fellows at the School of Habitat Studies at TISS in Mumbai. Together with Anand, they co-taught a similar course on urban waters in Fall 2018 to masters students in Urban Policy and Governance and Water Policy and Governance. These courses provided a scaffolding for students to propose and conduct original field research on the qualities of urban waters in Philadelphia and Mumbai, respectively, in 2018–19.

While student fellows picked the topics they would research, they were each mentored and guided through the process by the four of us throughout the course of their research. Drawing on different disciplinary traditions, the student research projects were exceptionally diverse. For instance, Rupakshi Mathur explored citizen science initiatives to document pollution in Allepey's canals in the wake of the floods in Kerala state in 2018. Samantha Friskey focused on a Philadelphia public work of art, 'Sleeping Woman', installed on the banks of the Schuylkill River, to examine how floods might instantiate an event of geo-rewriting in the Anthropocene. All the researchers were in close communication with each other for the full duration of their research through periodic video conferences as well as face-to-face meetings in January and November 2019.

In January 2019, *Rising Waters* fellows and faculty from the University of Pennsylvania visited Mumbai to participate in a week-long research workshop hosted at TISS. The workshop included research and writing sessions as well as field visits through the petrochemical and port landscapes along Mumbai's eastern coastline. During this time fellows and faculty were excited to find and discuss themes that resonated across the different contributions. For instance, Tathagat Bhatia's research on the murkiness of water quality measures (Bhatia, this issue) was in close dialogue with Anushri Tiwari's attention to the historic, and always incomplete, efforts to clean up the Mithi River, whose work was in turn generative for graduate fellow Luna Sarti's research examining flooding in Florence. Comparing urban processes across cities was generative for the ways in which they highlighted the bureaucratic disjunctures that are key to maintaining urban water projects in states of ambivalence (Kamath and Tiwari, this issue) across the global North and South.

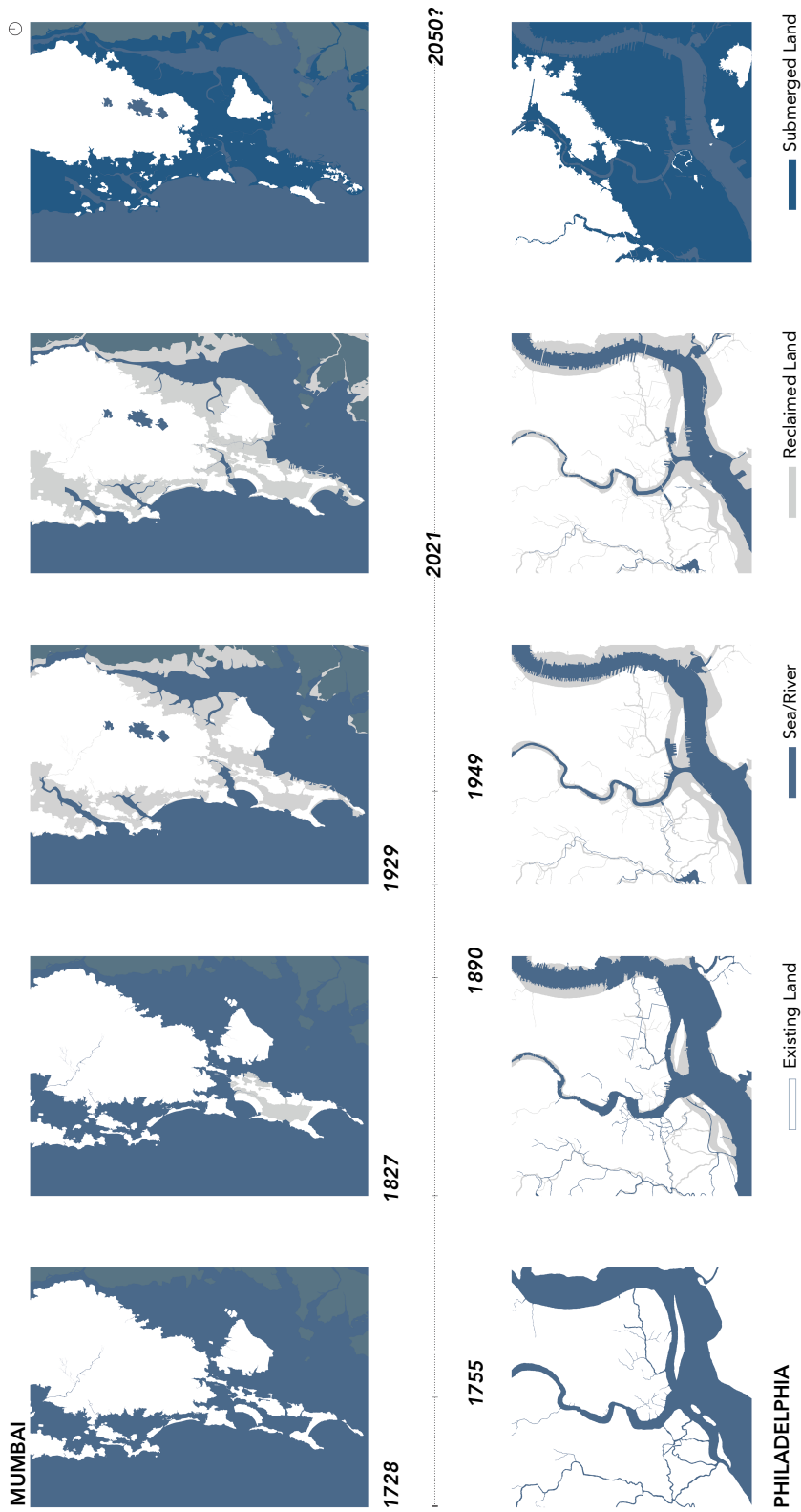
In November 2019, *Rising Waters* faculty from TISS visited the University of Pennsylvania. During this time, selected fellows from both TISS and Penn joined in daily writing workshop sessions over the course of a week to identify not only the key contributions of the individual essays in this collection, but also the key contributions of the collection as a whole, framed as it was through collaborative and comparative research. Noticing how marginalized bodies were both placed and stuck amidst toxic urban infrastructures (which are themselves stuck to the city, despite the harms they cause), we explored the dynamic processes that have produced and continue to produce events of durable harm in Philadelphia and Mumbai.

Times of comparison

Over three years of thinking comparatively about processes of slow violence across worlds, our transdisciplinary research collective has returned many times to two sets of historic maps—one set for each city—in our comparison between Mumbai and Philadelphia.¹ As we studied these and other maps together and traced the movement of waterlines which they not only document but also facilitate, our attention was riveted by the striking resemblance between the waterlines projected in the near future (possibly 2050), and the historic waterlines in 1700. In both port cities, the lines at 1700 and 2050 largely overlap (see Figure 1).

In Philadelphia and Mumbai rising waters are reclaiming land that has been colonized and dried by urban planning over the last three centuries. The return of these lands to states of 'wetness' (Mathur and da Cunha, 2009) subsumes the spatial logics

1 (1) Maps for Mumbai: based on maps in *Soak: Mumbai in an Estuary*, by Anuradha Mathur and Dilip da Cunha, 2009 (Rupa & Co., New Delhi; reproduced with the author's permission); 1827 Revenue Survey Map; 1927 Survey of India Map; 2018 Google Earth; Climate Central, URL <https://coastal.climatecentral.org/>. (2) Maps for Philadelphia: 1756 A Map of Philadelphia and Parts Adjacent (Scully and Heap); 1890 USGS Philadelphia Map; 1943 US War Department Corps of Engineers Philadelphia Quadrangle Map; 2019 Google Map of Philadelphia, URL <https://www.google.com/maps/@39.9184021,-75.1799206,12019m/data=!3m1!1e3>; Climate Central, Surging Seas, URL <https://choices.climatecentral.org/#12/39.9355/-75.1772?compare=temperatures&carbon-end-yr=2100&scenario-a=warming-4&scenario-b=warming-2>.



NOTE: This sequence reveals the combined processes of colonial and modernist land creation and the return of the rising waters.

FIGURE 1 Un-making ground in Mumbai and Philadelphia, 1700-2050? (source: maps adapted by Sara Anand from maps used in the research, see footnote 1)

that segregated the wet and the dry as well as the urban plans that designated wetlands either as wastelands for sewage and solid waste or, through dumping and desiccation, as the sites of future ports, polluting heavy industries and vulnerable human populations. Today, the waters' return is overwhelming the docks in these ports and undermining the structural footings on the lands that have been dried.² This has prompted us to consider how colonial histories remain alive in these places with their distinct postcolonial histories.³

The historical difference of 170 years in the establishment of these postcolonies might seem ample reason to preclude their comparison. But across these histories of independence and across what has become the global South and North, the colonial past continues to press on the present and future, even impressing them into its service. The pressure, or 'duress' here is applied most immediately by climate-changing waters, rising in response to centuries of galloping CO₂ emissions, and it reveals how concepts used to identify colonial duration—including its end and the establishment of the postcolony itself—'may be inadequate to the task' (Stoler, 2016). Analytical traction may come instead from the comparisons made between contexts that 'seem radically distinct' (*ibid.*). Here they point to the need to explore the enduring logics of wet and dry that drove pilings and laid footings to shore up the logistic centers of global trade, placing already marginal populations in direct proximity to them and heaping insult onto ongoing historical injury.

The comparison between Philadelphia and Mumbai sheds light on the historical processes and colonial logics that have marginalized populations and placed them in the path of harmful waters. Our thinking across comparative difference has drawn especially on those critics who advance a 'long' Anthropocene concept; one which is attentive to the afterlives of colonization and settler colonialism (Davis and Todd, 2017). Not assignable to a single calendar year, or even to a particular period, colonial logics continue to ramify and be reproduced in the contemporary moment, washing through projects to govern urban environments today.

By attending to and thinking with those living in the wake of colonial orderings of land, water, property and the city, our comparison is also suggestive of the modes of research and writing needed to make sense of a world in which modernist narratives of spatio-temporal progress have lost their critical purchase. Some urban and environmental writing has a troubling propensity to invert 'colonial-era developmentalist progress narratives' and reveal instead their reverse: 'an ominous Third World present [that is] an image of the First World's future (Wenzel, 2018: 504; see also Comaroff and Comaroff, 2011). Such simple inversions fail either to represent or to address the mixed temporalities across and within these two cities of the global South and North. Across the world's oceans, along the Indian and Atlantic littoral, waters ooze, seep and flood into areas which centuries of racialized capitalism, settler colonialism, and postcolonial urban development dried out and shored up. In both port cities, the shorelines are awash with colonial histories, their violence returned and repeated on the rising tides. Within this long historical frame, the contours and shape of the slow violence, so notoriously resistant to representation, emerge.

In comparing Philadelphia and Mumbai, our aim is to contribute to what Christina Sharpe calls 'wake work'. As she lyrically puts it: 'in the wake, the past that is not past reappears, always, to rupture the present' (Sharpe, 2016: 9). Such work in the wake disrupts the continuous, linear and progressive historical narratives that occlude the liquid relations constitutive of globalized modernity, produced by centuries of salt water capitalism. Thinking in the wake allows us to make sense of uncanny resemblances concerning the way that urban grounds have been produced in colonial

2 For instance, in July 2022, residents of buildings on Marine Drive in Mumbai, reported their buildings shook during the high tide (Pinto 2022).

3 British troops retreated from Philadelphia in 1778 during the American War of Independence, while the last British troops departed through the Gateway to India in 1948.

cities across distant geographies (Ghosh, 2016), and how the production of enduring harm continues to persist in the blurry zones of these land waters. Wake work, in this sense, allows us not only to apprehend the ongoing histories of slow violence, but also to recognize how these histories can be remade amidst the toxicity that is thus revealed.

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