



CHAPTER 2

The Global Swamp

The Amphibious as a Figure of Heterotopia

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In Asia, an estimated 54% of the urban population live in low-lying coastal zones (Kramer 2018). The Bangkok Post reported in 2019 that ‘of the 10 major cities most threatened by rising ocean levels, seven are in Asia.’¹ While flooding is nothing new for these cities, the regularity and intensity of such events are. In 2011, Bangkok experienced its worst flooding in decades, not just as a result of torrential downpours, but ‘exacerbated by high tides, forcing water back up swollen rivers’². As city roads were turning into rivers, the Thai government had to decide which parts of the city to sacrifice and which to protect, admitting that it is ‘impossible to protect’ the whole capital (ibid.). Around Manila, high tides are able to reach farther inland while rising sea levels and urban subsidence threaten the foundations of Manila’s shores (Bankoff 2003). Recent studies show that previous estimates of flood risk were too low: in a new future scenario by Kulp and Strauss (2019), sea levels by 2050 will be ‘high enough to threaten land currently home to a total of 150 million people to [sic] a future permanently below the high tide line’.

Cons (2017: 47) recently speculated that we live in a moment of ‘global flooding’: periodic inundations haunt cities the world over, turning whole regions into swamps and leaving a ‘dampness’ in their wake. This swamping has become a pivotal human experience. Of course, people wonder whether they will be able to survive in these liquefied, dank environments. This is becoming a more common experience as greater numbers of people are confronted with swampiness (see also Ley 2018), which is why Cons (2017: 52) urges anthropologists to recalibrate: what if the damp is becoming the norm in terms of city planning and subjectivity, an integral feature of the urban experience?

This chapter asks what it means for cities to undergo prolonged flood crises and become partially amphibious. I show how, in flood-prone neighbourhoods, clientelistic relations, privileged access to building materials, creativity and political finesse allow poor inhabitants to survive in urban landscapes that have become damp, to use Cons' term. As the littoral they built their homes on is sinking, they carry out small infrastructural adjustments aimed at keeping the waters at bay. They rely on unsteady assemblages of people, materials and time to minimize risk. More often than not, I argue, these adjustments are short-lived and not sustainable, only preventing flooding imperfectly and temporarily. In view of this particular challenge, and people's experience of the risk of flooding, I ask, building on Krause (2017), what it means, and what it entails socially, to inhabit an urban delta in the twenty-first century. In other words, what kinds of social and material worlds are emerging in cities built on sinking land? What are the (global) politics that underlie the emergence of this amphibious life? This chapter relates to Camargo's work in this volume in that dampness is a form of hydrosocial stagnation that leads to confinement and health-endangering exposure. There is further overlap with Ivars' piece on the instability of land and tenure as a result of legal procedures and the enactment of rules and policies.

In recent years, a number of anthropologists (Gagné and Rasmussen 2016; Krause 2017; ten Bos 2009) have called for an amphibious anthropology. In the following section, I will review some of their claims and theoretical interventions, focusing on their conceptualizations of water and infrastructure. I argue that a consideration of the urban is largely absent from their analyses of the processes and social dynamics that characterize amphibious lifeworlds. I here define the urban as a dense network of actors, materials and places constituting an ambiguous socio-material landscape. Cities are incomplete and ever-shifting assemblages that enable the accumulation and distribution of resources while constantly forcing people to make instant decisions about 'where to put time, effort, and social and monetary capital' (Simone 2014: 1). People's experience of the urban in the hyperdense cities of the Global South is influenced by the constant necessity of exploring their uncertain material and social surroundings, 'taking materials out of their usual contexts, uses, and meanings and then piecing them together' (ibid.: 3). This undoing and refitting allows people to endure in precarious socio-ecological niches. By considering an urban amphibious situation, I would like to examine ways in which this 'city-ness' (Simone 2009) works in the context of sinking land due to rising sea levels. Adding an urban focus to studies of life with and *in* water, this chapter further argues that an understanding of urban development and spatial politics is key to an understanding of amphibious spaces in urban-

ized deltas. These new amphibious spaces can become zones of confinement for some urban dwellers, where they struggle with dwindling land and rising waters. Here, land is suddenly coming to an 'end' (see Li 2014) not because the sea devours it completely but because the infrastructures that created this land stop working for the majority, and because in the eyes of more powerful actors it is simply more important to protect some areas than others (Bhattacharyya 2018). To paraphrase Cons (2017: 51), 'the kinds of infrastructure that do or do not exist to protect people' from the effects of climate change are, 'decidedly, the result of social forces'.

I propose to consider the urban amphibious as a site of often desperate struggle over the meaning of land and access to critical urban infrastructure. To illustrate this, I draw on my own fieldwork in Semarang and Jakarta as well as other available documentation of amphibious life in Southern cities. This account is far from exhaustive. My goal is to encourage anthropologists and scholars in other disciplines to imagine the ways in which the disaster of flooding plays an active part in determining the 'shape of the urban experience' (see Hannerz 1980: 99) in these cities. In many cities, living on the coast has become a particular challenge for the poor. In coastal settlements, citizens are cut off from a number of critical infrastructures and decision-making processes. For them, life at the edge of the sea can be particularly capricious when infrastructures and adaptive mechanisms are out of date or simply missing. They may face further threats from armed groups, or eviction because of land reclamation projects.

Based on these social and material conditions, I suggest considering the amphibious as a contemporary figure of heterotopia. I show that, in Indonesia and elsewhere, poor floodplain inhabitants live in heterotopic spaces, that is, 'other places' that are maintained outside of all ordinary places but exist on the border of a social (urban) order. I provide an account of the amphibious that locates the existence of amphibious spaces in the context of a conjuncture of material (dis)investments, ecological crisis and capitalist state-making. Cons (2018: 285) has made similar use of Foucault's concept to refer to emergent spaces of climate security. He reads resilience-building projects as 'heterodystopias' to show how imaginations of the future are 'grafted onto places of uncertain ecological change'. Embodiments of this futurity, in the form of lived spaces, allow us to predict future forms of containment imposed on imagined environmental victims, such as coastal settlers or climate refugees. These politics, according to Cons, will determine whether and how people will endure in 'self-contained spaces characterized by isolation and fortified against the chaos unfolding around them' (ibid.: 268). The places I investigate, however, have not commonly been posited as harbingers of an apocalyptic future. Rather, they are often described as hopelessly backward and in need

of modernization. They are thus defined by what they are not (urban, modern, civilized) yet might become through economic improvement. I emphasize this discursive framing to keep track of the ideologies that played a role in the material becoming of the coastal amphibious. These ideologies are as important for their biopolitical framing as apocalyptic future scenarios. If the swamp is going global, it is long preceded by these images and representations resonating across cultures of governance.

The main insight gathered from my own long-term fieldwork in Indonesia³ is that while coastal settlements clearly existed prior to capitalist urbanization, today we cannot understand their amphibious existence without considering the more recent history of urban capitalism, governmentality and neoliberal development. Following Graham and Marvin (2001: 8), I suggest considering the amphibious – that is, people’s often awkward relations with wet (semi-)urban spaces – as the product of a modern urbanism that deeply infuses the fabric of cities with capitalist investment based on constructing nature as a separate entity. This urban modernism is turning floodplains into heterotopic spaces, where subjects who are not yet part of modernity are trapped while the wetness of repressed swamplands returns with a vengeance.

The amphibious turn

The German philosopher Peter Sloterdijk has argued that humans have always been amphibious – ‘a creature switching from element to element’ (see ten Bos 2009: 76). The question for him is not when we became amphibious, but when we started thinking and acting like terrestrials. As ten Bos (2009: 74) suggested, based on Sloterdijk, the human is an ‘ontological amphibian’, a creature whose actions and thinking are influenced as much by the aquatic as by the terrestrial. This view facilitates a potentially useful unsettling of Western notions according to which ‘the idea of place invariably evokes terrestrial metaphors like “rooting” and “grounding”’ (Lowe 2003: 111).

Similarly, anthropologists studying deltas and floodplains have pointed to the shortcomings of modernist, land-centred epistemologies. To these anthropologists, the ever-shifting contours of delta ecologies suggest that both human and non-human lives are conditioned by change and ambivalence. Krause, for instance, detects this ambivalence in the very lives of his research participants, arguing that the ‘ever-changing interplay of land and water as a result of flooding, draining, drying and irrigating, sinking, silting, sedimentation, channeling, erosion, and reclamation’ (2017: 403) makes social and cultural life itself amphibious. Similarly, Lahiri-Dutt and

Samanta (2013: 1) have portrayed the ‘lived-in landscapes’ of the Indian *chars*, silt islands in the Bengal Delta, as ‘uniquely fluid environments where the demarcation between land and water is neither well defined nor permanent’. A modernist scientific view of these environments, they argue, robbed the *chars* of their exceptional ecological and social histories, reducing them to geographical oddities. But, as they show, people actually live on this ecological ‘edge’, eking out a meagre living in a fragile environment that the authors compare to the coastal wetlands of delta mouths (ibid.: 11).

Anthropological studies of social and cultural life at the water’s edge thus teach us an important and timely lesson: our binary categories poorly capture the existence of places where land is not a given and water comes and goes. In view of increasingly frequent flood events that undermine urban livelihoods and functions, gnawing at the very foundations of cities and causing them to sink, we should definitely pay close attention to the ways in which cultural understandings of land, categories of governance, ideologies and livelihoods are constantly reconfigured by water. It is perhaps time to question our very concepts of urban ‘land’ and, in turn, design new methodologies for research in places whose boundaries are symbolically and virtually fluid.

How can we make this healthy shift in thinking, pioneered by an amphibious anthropology, suitable for an exploration of the city? While cities consist of shifting – rather than entirely stable – structures, they do display a remarkable stability in terms of social stratification and spatial fragmentation. How can we account for this fluid aspect of cities in an analysis of urban life influenced by the blurry line between terrestrial and aquatic infrastructures (Morita 2016)? Where and under what circumstances is an amphibious lens useful in approaches to ‘exploring the city’ (Hannerz 1980)? I suggest focusing on two central dimensions of amphibious life as identified by proponents of an amphibious anthropology: water and infrastructure. Water is a crucial constitutive element in these worlds, a central source of livelihood and existential uncertainty. Infrastructural assemblages mediate and condition these flows of water, and vice versa.

Zooming in on life in between land and water, the co-editors of a recent issue on amphibious spaces argue that any attempt to fix these landscapes in time is bound to fail (Gagné and Rasmussen 2016). In addition to these being fluid environments, they point out that the cultural identity and practices of place-making of inhabitants are affected by the constant merging of land and water. They conceptualize this ‘confluence’ as an inhabited relational space shaped by time and movement. For Gagné and Rasmussen, the relational space between water and land shifts with changes in the quality and distribution of water. Novel relationships with

place emerge and power constellations are reconfigured as water infuses everyday life with specific rhythms. Seen as an opening for forms of expertise and knowledges related to water, the merging of land and water is considered generative of new assemblages of actors and practices, as well as social conflict. While they observe a hybridization of knowledges and shared responsibility for adaptive measures, the authors also suggest that adverse events, such as flooding, may lead to undemocratic, unsustainable and lopsided solutions. These adverse events, which upset local balances, seem to be ‘natural’ occurrences. While the notion of a relational space is useful, it is not clear how, for instance, state and other development projects aimed at creating disaster preparedness affect amphibious relations. Water, too, is a given entity in their account of amphibiousness. Swyngedouw (2004) and others (e.g. Gandy 2004), in contrast, have emphasized the social construction of water through discourse, space and capitalist temporalities. It is not water per se but hydrological cycles and ideologies, then, that add a ‘layer of unpredictability and capriciousness’ (Gagné and Rasmussen 2016: 135) to people’s lives.

Atsuro Morita’s work (2016), too, contributed to the emergence of an amphibious anthropology. He described Thailand’s Chao Phraya Delta as an amphibious place ‘located between land and sea’ (ibid.: 118). Here, the sea tide interferes with fluvial activity all the way to the capital city Bangkok, which is low-lying. Water is something to reckon with in Bangkok, as massive rainfall, river flow and tidal movement interact to create the conditions for lasting flooding. According to Morita, these watery conditions explain the historical emergence of an amphibious infrastructure. Currently, traditional amphibious and modernist terrestrial infrastructures are at loggerheads and represent ontologically opposed strategies for dealing with water abundance. Whittington (2013), however, tells a different story of flooding in the Chao Phraya Delta. His informants related flooding to several highly politicized issues. The public especially attributed flooding not only to water infrastructure but also to problems with inescapable land subsidence and overpopulation. Whittington suggests that the 2011 flood event arrived ‘through specific socio-technical, cultural and power-laden relations’ (ibid.: 319). In fact, his informants referred to water itself as ‘political’:

‘This is political water (nam gan meuang)’, one resident told me as she described living on the second floor of her house for five weeks, walking in knee-deep water two kilometers to the store when needed. Directly across the road, Thailand’s oldest industrial estate had built a towering flood barrier. Her house was on the wrong side of that wall but on the right side of a different one built less than a kilometer away, and new housing construction was underway just down the street.

In the wake of the 2011 flood disaster, new barriers were erected, often with private capital, but also by drawing upon public funds. The disaster thus brought about new ecological and hydrosocial relationships through the installation of anti-flood infrastructure, 'large-scale concrete structures' being the rule. The result was a waterscape 'crisscrossed with canals but now increasingly crossed with barriers' (Whittington 2013: 322). To Whittington and others (Kusno 2018; Ley 2018), flood prevention cannot be considered outside of national politics, economic relationships and infrastructural imaginaries. Urban infrastructure and, notably, unevenly distributed access to it should matter in an analysis of urban amphibious spaces.

Krause's (2017) analytical suggestions for an amphibious anthropology offer useful reflections. His framework consciously interweaves social, political and material factors. Krause's notion of an amphibious anthropology, for example, draws heavily on hydrosociality, a concept that allows us to account for the 'politically and economically inflected ways in which water moves and is distributed' (ibid.: 404). Water movement, in other words, is always facilitated, impeded or mediated by (im)material infrastructure. Furthermore, according to Krause, the wet and the dry not only interact as ontological forces but relate in specific ways to historical arrangements of social, economic and political power. As such, he argues, 'environmental and colonial histories, population movements, and *infrastructural projects* . . . can and should be studied as amphibious anthropologies' (ibid.: 407, my emphasis).

This argument is in accord with the results of the recent increase in anthropological studies of urban water infrastructure. These demonstrate that uncertainty flows from the complex interplay between water, infrastructure and municipal politics. Urban water systems, such as drinking water provision or sewage processing, are artefacts that 'promise' something but require constant maintenance, scrutiny (Anand, Gupta and Appel 2018) and political as well as literal pressure (Anand 2011). This suggests that urban life on the edge of the sea is to a large extent dependent on the politics, differential performance and accessibility of water infrastructure. Instead of asking how aquatic and terrestrial infrastructures overlap or conflict with one another, I suggest that the more important question is how urban infrastructures (re)distribute ecological risk along socioeconomic divides. Following Krause (2017), a focus on the role of infrastructure in mediating movement opens up space for considerations of governance and control. Lahiri-Dutt and Samanta (2013) make this statement early on in their work on the Bengal delta *chars*. According to them, the *chars* are products of river control. They are 'shaped largely by colonial land- and water-management policies, and reflecting the environ-

mental consequences of legal instruments' (ibid.: 11) that lay the foundation for large-scale ecological interventions. Specifically, the colonial land revenue system considered rivers as destructive and in need of control. Embankments, dams and barrages were supposed to afford state control of riverine movement. Today, the authors note, Bangladeshi *char* dwellers are more vulnerable to bank erosion and flooding as policies have created a false sense of security (ibid.: 42).

In my view, the political and historical origins of the experience of regularly or permanently flooded urban spaces have not been sufficiently examined. The following ethnographic section attempts to evince city dwellers' roles and the wider politics involved in the spatial and infrastructural making of new amphibious urban areas. Following Lowe, I consider watery places, 'like a strait or swamp or collecting site' (2003: 129), as emerging through both human agency and ecological processes. What if the various agencies that interact to 'make' urban coastal land force certain people to stay in swamps, 'dank places where bugs multiply' (Taussig 2015: 30), while others enjoy more mobility and agency? How can we consider this (im)mobility in our ethnographic accounts of flux, ambiguity and fluid socio-natures?

Political floods

The Semarang-based poet Muhammad Djawahir (2011) traced the perennial flooding of coastal neighbourhoods to the gradual industrialization of the shoreline and the arrival of 'modern' values. In his poems, he reminds us of a past when Semarang's shore was a lush swamp dense with mangroves and crisscrossed by small water channels that permitted rice cultivation and small-scale agriculture. This amphibious landscape was mainly inhabited and put to use by the Indigenous population of Semarang. Colonial maps dating back to the beginning of the nineteenth century show a coastal landscape dotted with fishponds and scattered Indigenous communities (see Ley, in press). Aquaculture consisted of duck farming and rice growing. Long-time residents of coastal neighbourhoods told me nostalgically about this watery environment, which provided them with a modest but reliable subsistence. While it used to be a productive and spirited environment, it is today marked by never-ending disaster, plagued by flooding, pollution and structural poverty.

As a PhD student living in Semarang, I visited the sub-district of Tambak Rejo (TR) in 2015. I was accompanying two American biologists who were interested in the alarming phenomenon of land loss due to the encroaching sea. TR is the northernmost neighbourhood of Semarang and

belongs to the sub-district Tanjung Mas. At the time, it had a population of around two thousand residents. Many newcomers had been unable to acquire official title deeds, as stretches of the village were located on state-owned land. TR is located on a slim stretch of land reaching into the Java Sea. In the 1970s, it was still predominantly inhabited by fisherfolk. *Tambak* is Javanese for fishpond but can refer to any human-made structure containing water, such as a salt basin. Coastal fishponds harnessed tidal influx but also required the clearing of mangroves, which worked as natural buffers to rising tides. The inhabitants of TR used to live off regular catches of fish and shrimps but soon discovered that their lands were becoming more exposed to flooding. Over time, the degrading area began to attract social outcasts – unemployed, evictees and criminals – that could not afford land or rent in other parts of the city. The North turned into a kind of refuge from the aggressive policing of spaces associated with the ‘modern city’ (Kusno 2000). As more and more people arrived, it became necessary to enlarge TR’s territory by reclaiming land from the sea with dirt and garbage. Residents tried to withstand the rising tide and land subsidence by constantly raising houses and streets. As many houses were located on land not zoned for residential purposes, the city government never came to their aid. Not being invested in the area’s development, urban governance let the local infrastructure deteriorate. During my visit in 2015, a resident took us to the ruin of an old fish-auctioning site (*Tempat Pelelangan Ikan*, TPI). The TPI and the roads leading to it had fallen victim to the sea and all that remained was a concrete skeleton protruding above the surface of the ocean.

I returned to Tambak Rejo at the end of 2018 to interview residents. Many had stayed in TR despite intensified flooding. In fact, the settlement had grown, having absorbed more desperate newcomers and evictees, now crammed onto a strip of land succumbing to the sea. On a boat trip that took us from the mouth of the East Flood Canal to the northernmost tip of the coast, I was able to observe the advanced deterioration of the shoreline and the extent of coastal destruction. After passing destroyed fishponds and mangroves, we arrived at the shore, which was entirely covered in rubbish. To the west, we could see the giant cranes of the harbour’s landing site. Three fishermen with rods were trying to make a catch. The sun was beating down on them, which was why they were fully clothed and wore motorcycle helmets as protection. The edge of the sea had become an entirely unliveable space.

Today, TR’s residents resort to multiple income strategies to get by. Few are still fishing. There are small chicken farms and many fishermen work part-time as *Go-Jek* drivers.⁴ I was accompanied by a representative of Karang Taruna, a youth group that was at the time cooperating with

Semarang's Centre for Legal Aid (Lembaga Bantuan Hukum) to defend residents' right to housing in a court case against the central government. The government, which had been largely absent from the lives of the locals, was planning to evict many residents in the wake of an infrastructural megaproject. TR is located at the mouth of the East Flood Canal, a major urban drain, that is undergoing extensive normalization works (dredging, cleaning and embanking) aimed at regulating outflow. We stopped at a house located on the banks of the canal for coffee and snacks. The house belonged to Ibu Rosid, a resident who had provided testimony of the local residents' dire situation to Karang Taruna. On the other side of the East Flood Canal, excavators were busy hauling massive tetrapods – cheap anti-flood infrastructure – into the canal. The side we were standing on, along with Ibu Rosid's house, was soon to witness the same treatment. Ibu Rosid⁵ moved here in 1983, settling on 'free land' (*tanah kosong*). Because she had not been able to acquire title deeds for the plot, she was now facing imminent eviction without compensation for the loss of her property.

She and her teenage son were suffering from skin rashes due to their constant exposure to toxic bay water. She led us into the middle part of the house, where her son slept at night on an elevated mattress. After a few metres we had to wade through stagnating water, as the rest of the house had been flooded. The water had not retreated for two months now. All of the remaining rooms, including furniture, stood in brown water. She accepted the prolonged state of the flooding, because she expected that they would not be able to protect their house for much longer – either from sinking into the ocean or from government normalization plans.

In 2019, illegal parts of TR were destroyed by government forces: houses were torn down and crushed by heavy construction vehicles and armed security forces. Local residents resisted the eviction for days, violently clashing with authorities. The intervention was covered extensively in the local and national media and required mediation efforts by the governor of Central Java. In a video from the Javanese *Tribun News*,⁶ an evicted woman whose family settled in TR thirteen years ago mourns the destruction of her house, wailing while carrying her child: 'We didn't get any compensation. Where is the government? They said we could stay here. But we were never given this land. . . What do you want me to do?'

The life that many residents of TR had established and protected until this cruel eviction had been intimately related to water. When the settlement emerged in the 1970s, public investments like the fish market that supported the area's economic growth promised improvement. Since the arrival of tidal flooding, residents have had to adjust to unruly water flows due to unpredictable high tides and land subsidence. These pro-

cesses deeply inflected the rhythms of everyday life in that plans had to be made on grounds that never became firm – both in a literal and metaphorical sense. This has everything to do with the fact that the government legally disavowed many residents' existence in the bay. The convergence of flooding and illegality created a sense of confinement met by a desperate politics of waiting. Life at the edge of the sea in Semarang became a kind of quarantine: in the absence of alternatives and in the face of flooding, the coastal no man's land put its inhabitants in an increasingly tight spot.

An upwelling from the past

Raissa DeSmet Trumbull (2013: 142) speaks of various 'upwellings' in her dissertation titled 'A Liquid World: Figuring Coloniality in the Indies'. In Indonesia, she observed 'how a single drop of seawater contains a world of matter'. Java, the most densely populated island of Indonesia, with intensive agriculture and sprawling cities, is also rife with 'presence' (ibid.: 142), according to her: 'postcolonial Indonesia is . . . a doubly haunted space, awash with phantoms new and old . . .'. Not only do undesired people, the poor and revolutionary elements, whose growing presence in Indonesia's metropolises has led time and again to incidents of state brutality (Barker 1998; Siegel 1998) populate the landscape; so do ghosts and other non-human beings. Trumbull's thought-provoking PhD thesis explores how water produces upwellings of old and new spectres – haunting matter. She argues, drawing on Roland Barthes, that icons of modernity and the results of mechanized labour – machines, modern infrastructures or the photograph – are haunted by 'the possibility of accident': 'these technologies become spectral, they contain other dimensions' (Trumbull 2013: 147). Water infrastructure, I argue, also contains such 'other dimensions'. Hydrological management is commonly associated with Dutch colonial rule in Indonesia, as the colonizer introduced Western water-management technologies throughout the archipelago (Mràzek 2001), especially in Java. These infrastructures promised a smooth flow of goods and liquids as well as improvements in hygiene and public health. However, they also carried the risks of miscalculation and failure.

Suharto's totalitarian New Order (1968–99) government ran a nationwide infrastructural programme aimed at improving the situation of urban rivers in Java. In the view of the political establishment, riverbank settlers had become an eyesore, and stained the projected image of a rising modern nation. The official objective of river upgrading was to unclog waterways and prevent urban flooding during the rainy season. This river 'normalization' (*normalisasi sungai*) programme was intended to restore the 'original' flow capacity of rivers. In Semarang, the project stalled af-

ter capital flows from the central government had dried up, much of the money having ended up in the pockets of local politicians, businessmen and state-backing local leaders. Renovations of river infrastructure remained incomplete in the coastal North of Semarang. Despite repeated efforts to ‘better the quality of the environment’, the area continued to deteriorate (Djawahir 2011: 111).

After the New Order, the unfulfilled promise of infrastructural improvement and constant threat of flooding marked the beginning of a piecemeal, decentralized approach to flood prevention. Small projects at neighbourhood level and municipal water-management projects supplanted state-led projects to drain the North. Today, the drainage system of Semarang is almost completely dysfunctional in the city’s Northern *kampungs*, causing recurrent flooding in many coastal neighbourhoods, such as Kaligawe. Tambak Rejo is not the only sub-district suffering from tidal flooding due to sinking land. The deltaic sub-district Kemijen, where I conducted the bulk of my doctoral research (Ley, in press), and the coastal neighbourhood of Tambak Lorok are also affected. While Kemijen is built on wetland, Tambak Lorok and Tambak Rejo stand on land that was settled in the wake of extensions of Semarang’s port area. Today, the ground that all these dense neighbourhoods stand on is sinking at rapid rates between five and fifteen centimetres per year.

As such, it is not only the coast that is acutely threatened by tidal flooding due to regular storm surges and high tides, but also places like Kemijen, whose water infrastructure has become self-defeating. While Kemijen’s main canal, the Banger River, has recently been dammed to control the in- and outflow of water within the floodplain, the sub-district is not shielded from inundation. Water still creeps into streets, as underground water levels fluctuate and local drainage infrastructure fails. Furthermore, the main drain’s tributaries, the smaller channels, still clog and overflow. Residents also trace repeated flooding events back to faulty drainage channels (*saluran*) that require repair, or to more obscure flood-related issues such as seepage from house floors. Always finding a way to elude technical control, water thus appears outside of its engineered conduits (rivers, gutters and channels). Streets often look soaked, not at all solid, and riverbanks seem to be more permeable than straightforward conduits of water. As a result, the streets of Kemijen are often wet and smell foul (*banger* being Indonesian for stinky). Polluted wastewater temporarily collects in gutters and puddles in between houses.

This upwelling of water is called *rob*. While *rob* can be easily attributed to the rising tide and ineluctable land subsidence, it is also the result of attempts to regularize and control water flow locally and in upstream areas of Semarang. Despite efforts to keep the water out, life in Kemijen is

characterized by a constant confluence of water and land. As Gagné and Rasmussen (2016) argue, this confluence of water and land shapes the experience of risk and defines place-making strategies. Residents must devise local strategies and make short-term plans to deal with floods. But not all of the residents of Kemijen succeed in effectively managing water flows or enduring prolonged flooding. The levels of inundation differ from household to household and from neighbourhood to neighbourhood. Though people in several contiguous sub-districts might agree that the tide is particularly high on a given day, they might not be affected by flooding in the same way. Other temporal as well as spatial arrangements are decisive, such as when the neighbourhood's streets were last raised, when the government last repaired the riverbank, or where in the area the government built a retention basin. While the government treats Northern areas as generally prone to flooding, there is no overarching logic of disaster. Living in an amphibious mode becomes a 'present in suspension' for some, while others can more easily continue a terrestrial mode of existence. In 2018, I attended a focus group organized by a local university at which the results of an architectural experiment were presented: scholars from the faculty of architecture had built a stilt house in Kemijen. Despite the implementation of a new, Dutch-designed drainage system supposed to make the area dry, the project was testimony to speculations that the future of Kemijen was increasingly amphibious.

As Whittington observed in Thailand, floodwater is political. When flooding occurs, water transcends official infrastructure, ignoring physical boundaries. Floods thus unsettle the lives of my informants and disturb state narratives of land and order. This prompts sweeping state measures aimed at preventing flooding: raising riverbanks, building dams and dredging rivers. Especially when national symbols are flooded (like national monuments in Jakarta, or Semarang's historic train station Tawang), the visions of prosperity and claims to sovereignty that these artefacts embody are briskly thrown into question. Flooding is thus a spillage of matter and meaning, or rather a surplus of meaning that floats new interpretations of the present and future. What is more, in Semarang, failing infrastructure can become recycled or reclaimed by insurgent publics that take on substantial government tasks. As noted by Anand, Gupta and Appel (2018: 3), while modern infrastructures promise smooth circulation and improvement, 'these precarious assemblies also threaten to break down and fail'.

In Semarang, the regular breakdown of infrastructure means that in addition to knowing infrastructural trends, one has to 'do' flood safety. Residents do this by making inferences from previous flood events and staying aware of their position within shifting techno-political arrangements (see Trovalla and Trovalla 2015). These arrangements, however,

operate in an uncoordinated, fragmentary way. To extend Mol's (2002) understanding of the modern body, the flood defence system of Semarang is not a bounded whole – its boundaries always leak. As a result, an urban neighbourhood that fails to 'do' flood safety in Semarang dies. In other words, it was not merely flood-related events that required minute attention from people, but also the government's plans to counter them. Residents have to heed the temporalities of relocation plans and water-management projects, as they also critically shape the confluence of land and water. It is the interplay between state plans and ecological trends that produces ambivalent upwellings of matter. Water is also political in the sense that it can prompt civil protest, as in the case of TR.

In the following, I briefly discuss two development projects that were supposed to regularize the movement of water in Semarang's coastal area. The first project aimed to implement a Dutch-designed polder, as already mentioned, stretching from the shore to downtown (see also Ley 2016). The second project is the normalization of the East Flood Canal, also mentioned above. The projects are linked, since the Banger River is a subsystem within the larger drainage assemblage of East Semarang. With the polder, the government wanted to retrofit colonial water infrastructure by modernizing the Banger River with Dutch hydraulic technology: dams, pumps and a retention basin. The renovation of the East Flood Canal put into practice the city government's drainage policy. Residents of coastal neighbourhoods were caught in between these largely uncoordinated projects, as they produced new unpredictable upwellings.

In 2017, the city of Semarang started operating the first polder of its kind. A Dutch consultancy had developed the technical design of the polder. The city involved both Indonesian and Dutch planners and engineers in the implementation phase. Construction had taken almost a decade, for numerous reasons. To name only a few, the national government backed out of the initial financing scheme; construction errors led to the early ruination (Ley, in press) of the main pumping house and time-consuming fixes; and lastly, the project hinged on an unprecedented tendering process as well as lengthy attempts to inform residents about the cultural difference (and superiority) of Dutch water-management systems. Arguably, the pilot project marked a problematic neocolonial (re-)entry of the Dutch into Indonesia's anti-flooding economy.

In 2016, just before the polder began operating, the city of Semarang started construction work on its East Flood Canal (*Banjir Kanal Timur*, BKT). The municipal government under mayor Hendrar Prihadi vowed to undertake improvements of 6.7 kilometres of riverbank and deepen the canal bed. Following the development of Semarang's other main drain, the West Flood Canal, completed in 2012, the BKT is currently undergoing

important changes, accompanied by sweeping evictions. After dredging and widening, construction teams are currently working seven days a week to implement the city's ambitious plan. Semarang's two Flood Canals are supposed to modernize the areas they flow through.

Both water infrastructure projects were controversial and met with residential resistance. However, the polder pilot probably attracted the most public scrutiny as it seemed to redistribute flood risk unfairly. Before construction began, the design gave rise to a heated conflict between the project leadership and residents of Tambak Lorok. Residents rejected the plan not only because it overtly ignored their own longstanding problems with tidal floods, but also because it promised to increase their own neighbourhoods' vulnerability to flooding. They feared that damming the river would increase erosion of their shores because previously the river had at least absorbed waves. They announced their collective resistance to the project, including their preparedness to sabotage its material infrastructure if necessary. Residents only gave in a few years later, when the Indonesian president, Joko Widodo, visited Tambak Lorok and announced a state-financed urban rehabilitation scheme for the settlement. This financial and political commitment to integrate Tambak Lorok into the city's wider flood-defence plan was a gesture towards the future of Semarang's coastal neighbourhoods (Baxtrom 2011: 63) that residents could accept. As this infrastructural project is slowly taking shape, residents have to keep guessing infrastructural trends and 'do' flood safety amidst upwellings of toxic water.

The amphibious as a figure of heterotopia

The extraterritoriality of outcasts is thus defined by this constant tension between an inaccessible inside, in regard to the categories of national citizens, and the experience outside as a form of assisted and constrained living. It is through this tension or double constraint that the heterotopia builds its artifact-boat, island, or camp, into a place of confinement and a place to live that seems to be in the middle of a void but is actually always on the border of a social or national order. (Agier 2012 279)

Not many proponents of an amphibious anthropology have considered the emergence of 'amphibious thinking' beyond the context of climate change. Furthermore, while some case studies address questions of justice, using a political ecological lens, water flows are often considered in solely local or regional terms, and thus treated as if independent of wider global relations that (re)produce inequality and hegemony. But as various social scientific analyses of water have shown, hydrologies are embedded within far-reaching social and material processes (Ekers and Loftus 2008; Swyngedouw 2011; Taylor 2014). In the case of major cities with extensive

catchment areas and global economies, the importance of seeing the ‘bigger picture’ can therefore not be overstated.

What is this bigger picture? As I suggested above, colonial city-building, modern infrastructure projects and urban governance styles play important roles in the globally occurring ‘dampening’ of coastal residential areas. This points to the relevance of historical and global processes in the arrival of the amphibious. As I showed above, uncertainty flowing from political and infrastructural relations underpinning the city characterizes amphibious life in Semarang’s coastal settlements. Water is an ‘upwelling’ from the colonial and postcolonial past that frequently unsettles infrastructure and its attached promises of modernity and participation in national progress.

In this final section, I build on Agier’s work on refugee camps and the figure of the ghetto (2012, 2018) to consider coastal flooding zones as heterotopias. I treat the emergence of the amphibious as a product of power relations instead of chalking it up to cultural difference or ecological change. Drawing on Foucault’s later work, Agier calls urban ghettos and refugee camps – products of globe-spanning processes of displacement – ‘off-places’. These ‘off-places’ are cut off from, but not external to, global urban economies. Foucault (1986: 24) defined heterotopias as spaces that are, in contrast to utopias, real but located ‘outside of all places.’ As *other* sites, they are part of a given culture but ‘absolutely different from all the sites that [these sites] reflect and speak about’. Interestingly, Foucault also referred to heterotopias as ‘floating spaces’ (*ibid.*), probably to underline their flexible location and potential multiplicity once they have been established as ‘outside’. In the above quote, Agier mentions boats, islands or camps as human artefacts that were supposed to be temporary vessels but morphed into sites of lasting confinement. These sites are suspended in a ‘void’ but exist within the thinkable limits of a social or national order. The Guantanamo Bay naval base perhaps serves as a powerful current symbol of this inside-suspension.

Heterotopian spaces further have a mirror function: they allow modern subjects to ‘locate an otherness’ against which they can think their own self as ‘real, full, living, healthy, normal, citizens. . .’ (Agier 2018: 15).⁷ They are blueprints of a negatively connotated possible, something that urban governments work to manage or suppress. As such, they sometimes have a spectacular aspect, as they reflect an undesired state of being or apocalyptic rendering of society. Urban amphibious spaces are often read as harbingers of an adverse future that should be avoided at all costs. Alternatively, they are framed as consequences of unusual catastrophic events (Taylor 2014). As exceptions, they represent an urbanization ‘gone wrong’. This mirror effect perhaps explains many city governments’ recent efforts to develop and beautify their waterfronts, a tendency that Herbeck and

Flitner (2019: 125) verified for Jakarta, Singapore and Manila: ‘The imaginaries mobilized by planners, developers, consultants, and city officials promise high-end city quarters to be built from scratch, often featuring ideas from smart and or green city discourses, in which different functions (high-end living, commercial uses, tourist attractions) are combined’. In Jakarta, the changes proposed by the NCICD masterplan (National Capital Integrated Coastal Development Plan) would turn the city’s waterfront into a beacon of ‘world class’-worthy urbanism. To this day, the plan remains a technical and bureaucratic mirage.

What I am arguing is that flood-stricken places in Indonesia and South-east Asia meet the criteria of Agier’s off-spaces in that they are often extraterritorial. Their overall poor inhabitants are forced to inhabit land that is off limits. This is precisely the case in Semarang: in the absence of affordable urban space, rural migrants built homes on swamp land that was vacant but restricted, such as riverbanks and harbour space. The local government often tolerated these land appropriations in exchange for an informal tax. For example, as the administrative area of the North started to spread, it informally incorporated *kampung*s built on land initially zoned as industrial or for the transportation sector. Residents who live here are now confined inside; they may be penalized and evicted at any time despite living in an official sub-district.

Similarly, in Jakarta, the obsessive clearing of land to make room for what Yuniarto (2014) calls ‘a brave new world’ of shopping malls, offices and apartment towers and overpasses leaves many poor dwellers with no other option than illegally settling on flood-prone land where construction is prohibited. Many inhabitants of Kemayoran were evicted in the wake of the construction of modern housing complexes. Some found refuge in illegally settled parts of Pademangan, a regularly flooded neighbourhood in North Jakarta,⁸ where I conducted fieldwork in 2011.

My ethnographic observations in Indonesian coastal areas suggest that such amphibious places are predominantly (but not exclusively) inhabited by social outcasts, the human ‘waste’ produced by Asian cities’ rapid urbanization (Björkmann 2015). They mostly find work in the so-called ‘informal’ sector, as street vendors, prostitutes or pedicab drivers. These days, the gig economy offers new precarious income strategies as regulated wage labour is becoming rare. Thousands of residents of Jakarta’s biggest informal coastal neighbourhood, Muara Angke, were evicted in 2011 as part of then governor Joko Widodo’s plan to build a public oceanside park. The intricate neighbourhood, which I visited before its destruction, was partially built on stilts and struggled with pollution, disease and high crime rates. As Herbeck and Flitner (2019: 123) have argued, ‘such securitizing moves by city governments are couched in terms of adap-

tation and justify the reorganization of urban settlement structures, and they sometimes involve militarized and violent interventions'. However, instead of disappearing in the wake of modernization schemes, amphibious spaces are today proliferating in Jakarta, as the city is experiencing a wholesale 'subsidence crisis'. The poor Northern district of Pademangan repeatedly experienced tidal flooding in early 2020. As the government noted, the surplus water reaching a height of two metres could not 'be streamed back to the sea'⁹ and remained trapped in the streets.

Lastly, as shown above, coastal neighbourhoods built on marshy lowland are highly vulnerable to global climate change. These spaces have come to depend on humanitarian aid or loan-based development programmes – they are the targets of development policies on which they have virtually no influence. As such, these spaces are often sustained by fragmentary interventions that follow ad hoc policy-making which eludes public participation or long-term monitoring. The fact that these spaces are now increasingly threatened by sea-level rise and storms further contributes to the public perception of their inhabitants as helpless victims. These places are thus increasingly managed outside of accountable government structures.

Agier (2011) demonstrates how the political configuration of refugee camps strongly limits the choices of inhabitants, leaving their lives confined in indeterminate suspension. In view of this agency-reducing



Figure 2.2. This dense coastal settlement in the Bay of Jakarta was destroyed in 2012 to make space for an urban oceanside park. Photo by Lukas Ley.

confinement, he argues that the horizon of millions of refugees is characterized by sustained quarantine. While Agier's choice of words owes to the deeply concerning increase and growth of refugee camps on a global scale and cannot easily be transposed to the case of coastal dwellers, the notion of temporal and spatial quarantine seems apt for amphibious places, such as former wetlands or *chars*, because they too have no viable future. Furthermore, Agier demonstrates that this very confinement ends up giving birth to new forms of urbanity. He is therefore in agreement with Simone (2015), who argues that it is not enough to draw attention to the creative ability of the poor to survive in dire circumstances. Rather, we should register their 'contributions to remaking notions of urban life itself' (Simone 2011: 357). This urban life is characterized by the constant repurposing of infrastructural assemblages in the face of ecological deterioration.

Coastal areas have long been treated as requiring quarantine and control by colonial and postcolonial governments. This isolation was created by colonial ordinances and affirmed through infrastructure projects in the postcolonial era. Coastal regions were considered breeding places for disease and in need of modernization by both colonial and postcolonial governments. The cases of Semarang and Jakarta show that those leading amphibious lives are pathologized by the state while their lives are increasingly circumscribed by humanitarian interventions that hinge on their victimization and therefore depoliticization. This depoliticization goes hand in hand with the (re)production of amphibious life in the Indonesian metropolis.

To conclude, if we can consider the amphibious as a figure of heterotopia, the proliferation of these spaces follows a distinctly 'urban logic'. Swamping is the result of longstanding exclusionary mechanisms and the discriminating operation of urban water infrastructures.

The amphibious future

New research shows that around 150 million people are living on land that will be below the high tide line by 2050 (Kulp and Strauss 2019). Inhabitants of urban deltas in Indonesia are already living amphibious lives in very poor conditions as a result of policies that condemn wetlands and prioritize the economic functions of coastal zones over human existence. State interventions such as dams and embankments heighten uncertainty, adding to the already existing challenges of living with unruly water flows and uncertain land tenancy, instead of preparing coastal areas for rising sea levels. Importantly, coastal dwellers in cities around the world are not – yet – given the same attention as climate refugees or victims of ecological

catastrophes. Instead, these amphibious subjects are often invisibilized by policies and systems of governance (Lahiri-Dutt and Samanta 2013). Living in socio-ecological niches of an urban form that disavows their amphibious existence, they have to endure so as to outlast flooding and infrastructural shifts. In other words, some victims of climate change do not have to migrate to end up being confined inside. Some are already confined to places that simply fail to take a proper governable form, such as coastal wetlands or *chars*. Communities living in these spaces are maintained in a limbo by the interplay of state governance, poverty and rising tides.

Calls for an amphibious anthropology have sensitized us to the ultimate ambiguity of land and water. However, this current has yet to develop a clear purchase on the influence of governance and politics on amphibious existences in cities. In this chapter, I have outlined a possible approach to the analysis of amphibious existence that might be specific to the experience of urban coastal dwellers in Southern cities. Yet it clearly shows that this amphibiousness, spreading globally, is not only a physical state of being, but also a procedural outcome of a political system of inequality. In postcolonial cities, uncertainty emerges from infrastructures that unevenly distribute access to urban services and resources in the city (Anand 2017; Simone 2009). An apt example of this is water infrastructure in global cities, such as Mumbai or Semarang, which produces uneven levels of flood exposure and vulnerability (Kusno 2018; Marfai 2012; Van Voorst 2015). Douglass et al. (2015) and others (Kooy and Bakker 2007; Kusno 2018) have shown that flooding in Jakarta is a complex socio-ecological event compounded by urban development policies. Riverside settlements, such as Kampung Polo, described by Van Voorst (2014), are located in high-risk areas, along rivers and canals, and lack the socio-economic and political resources to respond adequately. Here, one risk constantly replaces another. Similarly, Baxstrom (2011: 61) poignantly asked whether the megacities of Asia – Singapore, Hong Kong and Jakarta – are giving birth to a particular form of urban life that is ‘never coming to rest’. These places share no singular vision of the future and people have to continually recalibrate their own strategies, investments and cognitive maps, as official masterplans partially and contradictorily materialize on the ground. At the same time, plans do not translate neatly into local realities. Rather, a multiplicity of virtual plans with potential outcomes introduces never-ending uncertainty about the future. This uncertainty gives rise to an ‘oscillating movement through which a wide range of economic mobilities are hedged through the cordoning off of others’ (Simone 2011: 356). It is this cordoning off of certain economic pathways that is also productive of amphibious lives, and which marks them.

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Notes

1. Source: <https://www.bangkokpost.com/world/1740904/sinking-cities> (accessed 4 December 2020).
2. Source: <https://www.bbc.com/news/world-asia-pacific-15381227> (accessed 7 December 2020).
3. I conducted a total of twelve months of fieldwork in Semarang and four months in Jakarta.
4. *Go-Jek* is an Indonesian-owned company offering affordable rides, deliveries and online payments.
5. All names used are pseudonyms.
6. Source: <https://jateng.tribunnews.com/2019/05/09/video-kericuhan-dalam-penertiban-hunian-liar-di-kampung-tambakrejo-semarang> (accessed 7 December 2020).
7. Today, according to Foucault (1986), we see a proliferation of a specific kind of heterotopia – that of deviation. Heterotopias of deviation are spaces where individuals ‘whose behavior is deviant in relation to the required mean or norm are placed’ (ibid.: 25). Concrete examples are homes for the aged and psychiatric hospitals as well as prisons. Heterotopias have a specific function for society. Cemeteries, a key example of heterotopia to Foucault, serve a clear function for all societies, as they provide a space apart for the dead, for tending to them and for mourning their loss.
8. It is important to note that while it is often criticized by state representatives, the construction of illegal settlements also serves the government, as poor dwellers disappear from ‘proper’ city space (Yunianto 2014: 102).
9. Source: <https://en.tempo.co/read/1299125/north-jakarta-submerged-under-high-tide-floods-says-mayor> (accessed 31 August 2020).

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